Supreme Court, U. S.
FILED
JUL 17 1979
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1979

No. 79-79

PIHER INTERNATIONAL CORPORATION, and PIHER SOCIEDAD ANONIMA,

Petitioners,

VS.

CTS CORPORATION,

Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

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No.

PIHER INTERNATIONAL CORPORATION, and PIHER SOCIEDAD ANONIMA,

Petitioners,

vs.

CTS CORPORATION,

Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

Piher International Corporation and Piher Sociedad Anonima pray that a Writ of Certiorari issue to review the decision of the United States Court of Appeals for the Seventh Circuit in the case entitled CTS Corporation (Plaintiff-Appellant) v. Piher International Corporation and Piher Sociedad Anonima (Defendants-Appellees),* Appeal No. 78-1535.

* Hereinafter referred to as "CTS" and "Piher".

Briefly, the case involves a patent* that was held invalid by the district court in a re-trial conducted pursuant to an order of the Seventh Circuit Court of Appeals, in a decision written by Mr. Justice John Paul Stevens.** The patent was held invalid because a Piher device*** was found to be "on sale" prior to March 16, 1969 under 35 U.S.C. § 102(b). Upon the second appeal, the Seventh Circuit Court of Appeals reversed the findings of fact of the district court, and of Mr. Justice Stevens, and held the patent valid.

Although this case involves a patent, the issues presented herein basically are not patent law issues. Rather, this Petition raises fundamental issues of orderly judicial procedures in view of Rule 52(a), F.R.Civ.P., and two related decisions of this Court.

* United States patent No. 3,670,285, owned by CTS.

** The panel consisted of Associate Justice Tom C. Clark of the Supreme Court of the United States (Retired), sitting by designation; Mr. Justice John Paul Stevens, participating initially as Circuit Judge and on and after December 19, 1975 as Circuit Justice; and Senior District Judge Robert A. Grant of the Northern District of Indiana, sitting by designation.

*** Designated the model "PT-15" potentiometer.

OPINIONS OF THE COURTS BELOW

The second opinion of the Court of Appeals, to which this Petition is addressed, is reported at 593 F.2d 777 and is included herein as Appendix A.

The Court of Appeals denied a Petition for Rehearing by your Petitioners in an order dated April 18, 1979, a copy of which is included herein as Appendix B.

The lower court's decision upon remand, in the District Court for the Northern District of Illinois, Eastern Division, is unreported and, because the decision was rendered orally from prepared notes at the close of the re-trial, a copy of the transcript thereof is included herein as Appendix C.

The first opinion of the Court of Appeals, which ordered the re-trial as to the "on sale" issue concerning the '285 patent, is reported at 527 F.2d 95 and a copy is included herein as Appendix D.

The first lower court decision in the District Court for the Northern District of Illinois, Eastern Division, involving the '285 patent and others* is reported at 184 USPQ 399 and a copy thereof is included herein as Appendix E.

* Patents No. 2,740,027; No. 3,375,478; and No. 3,670,285.

JURISDICTION

Jurisdiction of the Court is invoked under Title 28, United States Code, § 1254(a).

Jurisdiction of the Court also is invoked under Supreme Court Rule 19(1)(b) because the Court of Appeals has so far departed from the accepted and usual course of judicial proceedings as to call for an exercise of this Court's power of supervision.

This Petition is filed within the 90-day period permitted under Title 28, United States Code, § 2101(c), from the order of the Court of Appeals on Petition for Rehearing dated April 18, 1979 (Appendix B).

QUESTIONS PRESENTED

1. Did the Court of Appeals, by substituting its own assumptions and inferences for the District Court's findings of fact, properly discharge its appellate function under Rule 52(a), which specifies that the findings of fact made by a district court sitting without a jury are not to be set aside unless "clearly erroneous", and did it follow the mandate of this Court's decision in *Zenith v. Hazeltine*?*

2. Can the Court of Appeals remand a case for a new trial with an *express delineation* of what evidence would be sufficient for a party to prevail but, after the remand in which the required evidence was presented and credited, change its position as to what evidence is required for the party to prevail without giving that party an opportunity to present the newly-required evidence?

3. In the fact situation presented in question 2, can the Court of Appeals invoke the "adverse inference" doctrine and rule against the prevailing party for not having presented at the re-trial the now newly-required evidence?

4. Can the Court of Appeals disregard completely the "law of the case" set forth in a previous decision by the same Court of Appeals in the same case involving the same parties and the identical issue, without finding any "unusual circumstances" as mandated by this Court in *Insurance Group Committee v. Denver & R.G.W.R.R.*?**

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* *Infra*, pages 9-10.

** *Infra*, pages 17-18.

THE RULE AND STATUTE INVOLVED

Rule 52(a), Federal Rules of Civil Procedure

FINDINGS BY THE COURT

> "(a) Effect. In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specifically and state separately its conclusions of law thereon, and judgment shall be entered pursuant to Rule 58; and in granting or refusing interlocutory injunctions the court shall similarly set forth the findings of fact and conclusions of law which constitute the grounds of its action. Requests for findings are not necessary for purposes of review. *Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court judge of the credibility of the witnesses.* The findings of a master, to the extent that the court adopts them, shall be considered as the findings of the court. If an opinion or memorandum of decision is filed, it will be sufficient if the findings of fact and conclusions of the law appear therein. Findings of fact and conclusions of law are unnecessary on decisions of motions under Rules 12 or 56 or any other motion except as provided in Rule 41(b)." (emphasis added)

35 U.S.C. § 102(b)

"A person shall be entitled to a patent unless—

> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or *on sale* in this country, more than one year prior to the date of the application for patent in the United States, or . . ." (emphasis added)

STATEMENT OF THE CASE

CTS brought suit against Piher for patent infringement in August, 1972 in the District Court for the Northern District of Illinois, Eastern Division. Upon completion of the pleadings before the district court, there remained the issue relevant here of whether or not a Piher device was "on sale" before March 16, 1969 which, if proved, would invalidate the '285 patent under 35 U.S.C. § 102(b).

The first district court decision (Appendix E), rendered by the Honorable Julius J. Hoffman, ruled in favor of CTS. The first Court of Appeals decision (Appendix D) reversed the district court decision and remanded the case for a new trial on the "on sale" issue because Judge Hoffman had erroneously excluded certain evidence presented by Piher. Mr. Justice Stevens stated in the opinion:

> "If the physical exhibit identified by Klass had been admitted, and if the trial court had accepted his oral testimony presented in an offer of proof, *the evidence would have been sufficient* to support findings of fact establishing Piher's 'on sale' defense." (527 F.2d, at 105; Appendix D, page D-15; emphasis added).

And he concluded the decision by saying:

> "Piher argues that we should therefore hold the '285 patent invalid. Such a holding, however, would require us to make the requisite findings of fact in the first instance and to conclude that Piher has met its burden with clear and convincing evidence. As we have indicated, *if the proffered testimony is credited, it appears that Piher will prevail.* But the question of credibility and the interpretation of the

exhibits are matters that must be decided in the first instance by a trial judge. We therefore remand for a new trial of all issues raised by Piher's on sale challenge to the validity of the '285 patent" (527 F.2d, at 105; Appendix D, page D-16; emphasis added).

Accordingly, upon remand Piher again proffered and the district court (the Honorable John F. Grady presiding) considered the same evidence that the Court of Appeals said would be sufficient for Piher to prevail. That evidence, including the testimony of the witness Klass whom Judge Grady found to be a "very credible witness",* was proffered by Piher and credited by the district court. Finding the CTS '285 patent invalid, the district court concluded its decision as follows:

> "I therefore conclude that the defendant [Piher] has established by clear and convincing evidence that its PT-15 potentiometer, embodying the plaintiff's [CTS's] '285 invention, was on sale within the meaning of § 102(b) of the statute prior to the critical date, March 16, 1969." (Appendix C, page C-10).

The second opinion of the Court of Appeals, the one to which this Petition is specifically addressed, began by stating:

> "The only issue we reach on this appeal is whether the evidence presented by the defendant [Piher] in this patent infringement action is sufficient to support the district court's finding that their variable resistor was 'on sale' in the United States, within the meaning of 35 U.S.C. § 102(b), prior to March 16, 1969. . . . We hold that the evidence was insufficient and therefore reverse." (593 F.2d, at 778; Appendix A, page A-1).

* Appendix C, pages C-2, C-3.

Thus the same evidence that Mr. Justice Stevens ruled "would have been sufficient to support findings of fact establishing Piher's 'on sale' defense"; and the same evidence that Judge Grady found to be "clear and convincing", including testimony from the witnesses Klass and Adams whom Judge Grady found to be "very credible witnesses"; was held to be insufficient by the second decision of the Court of Appeals. As pointed out in greater detail hereinafter, the second panel of the Court of Appeals made its own assumptions and drew its own inferences to reverse and/or disregard the previous findings of Judge Grady and of the first panel of the Court of Appeals speaking through Mr. Justice Stevens.

Your Petitioners respectfully submit that this holding by the Court of Appeals so far departs from the accepted standards of review, as codified in Rule 52(a), as to call for exercise of this Court's power of supervision. Ten years ago, in an analogous fact situation, this Court reversed a finding-of-fact reversal by the same Court of Appeals and stated:

> "In applying the clearly erroneous standard to the findings of a district court sitting without a jury, appellate courts must constantly have in mind that their function is not to decide factual issues de novo. The authority of an appellate court, when reviewing the findings of the judge as well as those of a jury, is circumscribed by the deference it *must* give to decisions of the trier of the fact, who is usually in a superior position to appraise and weigh the evidence. The question for the appellate court under Rule 52(a) is not whether it would have made the findings the trial court did, but whether 'on the entire evidence [it] is left with the definite and firm conviction that a mistake has been committed', United States v. United States Gypsum Company, 333 U.S. 364, 395, 92 L.Ed. 746, 766, 68 S.Ct. 525 (1948). See also United States v. National Associa-

tion of Real Estate Boards, 339 U.S. 485, 495-496, 94 L.Ed. 1007, 1016, 70 S.Ct. 711 (1950); Commissioner v. Duberstein, 363 U.S. 278, 289-291, 4 L.Ed.2d 1218, 1227, 1228, 80 S.Ct. 1190 (1960)." (emphasis added)*

For the benefit of all parties who rely upon the orderly judicial procedure, fairness and predictability of our long-established judicial system in their attempts to resolve their disputes peacefully; for the benefit of district court judges who diligently attempt to evaluate the credibility of live witnesses, and who for their guidance rely upon prior rulings of the Court of Appeals; and to correct the serious injustice to Petitioners; the time has come again, and a particularly appropriate opportunity is hereby presented, for this Court to reaffirm the principles of Rule 52(a) and the *Zenith* decision.

* *Zenith v. Hazeltine*, 395 U.S. 100, 132; 23 L.Ed. 129, 148; 89 S.Ct. 1562 (1969).

REASONS FOR GRANTING THE WRIT

Petitioners respectfully submit that the Writ should be granted because this is one of those truly exceptional situations in which the Court of Appeals for the Seventh Circuit has so far departed from accepted judicial standards and procedures that unless corrected, substantial detriment could result, not just to Petitioners, but to the general public. Firstly, in substituting its assumptions and inferences, the Court of Appeals gave insufficient deference to the findings of the trial judge, and ignored some of the key findings of the prior Court of Appeals decision in the same case in which two members of the panel were or are Supreme Court Justices. Secondly, the Court of Appeals decision is in direct conflict with this Court's prior decision in the *Zenith* case* which mandates the standards of appellate review under Rule 52(a). Thirdly, by completely disregarding the "law of the case" set forth in the previous Court of Appeals decision, at least insofar as the issue of what evidence was "sufficient to support findings of fact establishing [Petitioners'] 'on sale' defense", the Court of Appeals decision is contrary to this Court's mandate in the *Insurance Group* case** and tends to destroy the public's confidence in the orderliness, predictability and fairness of our judicial procedures; and it tends to destroy the reliance of district court judges upon prior Court of Appeals rulings. Finally, if the Court of Appeals decision is not corrected, an otherwise invalid patent could be allowed to stand as an obstacle to free competition.

* *Supra*, pages 9-10.
** *Infra*, pages 17-18.

The Court Of Appeals Gave Insufficient Deference To The Findings Of The Trial Judge And Ignored The Key Findings Of The Prior Court Of Appeals Decision, Contrary To The Standards And Procedures Of Rule 52(a).

As set forth previously herein, this case has been tried twice in the District Court for the Northern District of Illinois, Eastern Division and has been appealed twice to the Seventh Circuit Court of Appeals.

At the first trial, Piher attempted to introduce evidence to prove that its device was "on sale" in the United States prior to March 16, 1969. It is undisputed by all parties and courts involved in this case that if Piher could so prove, the CTS '285 patent is invalid. The trial judge, the Honorable Julius J. Hoffman, excluded most of Piher's evidence on this issue and ruled against Piher.

In the first appeal, the Court of Appeals ruled that the evidence was erroneously excluded and that, if the excluded evidence were accepted and credited, "the evidence would have been sufficient to support findings of fact establishing Piher's 'on sale' defense".* It then remanded the case for a new trial stating "if the proffered testimony is credited, it appears that Piher will prevail."**

Upon remand, the trial judge, the Honorable John F. Grady, received the same testimony and documentary evidence previously proffered by Piher and found it to be "clear and convincing."*** In his decision holding the

* Appendix D, page D-15.
** Appendix D, page D-16.
*** Appendix C, pages C-9, C-10.

'285 patent invalid, Judge Grady discussed at length the testimony, demeanor and character of the witness Klass whom he found to be "very credible"*. Judge Grady likewise commented upon and found the witness Adams to be "another very credible witness, a very careful man, who I believe testified truthfully to the facts as he recalls them and as he believes them to be."**

The first panel of the Court speaking through Mr. Justice Stevens ruled that if the testimony of Klass were credited, the evidence was sufficient to support findings of fact establishing Piher's "on sale" defense. Judge Grady relied heavily upon Klass' lengthy testimony and found him to be very credible. Nevertheless, the second opinion by the Court of Appeals does not even mention Klass, much less attempt to discredit his testimony or show that Judge Grady was clearly erroneous in relying upon it. Nor does the second opinion even attempt to explain why Judge Grady was clearly erroneous for relying upon this portion (*i.e.*, Klass' testimony) of the prior opinion of the Court of Appeals.

Likewise, there is no mention in the second opinion concerning the ruling in the first opinion about Klass' testimony. This key ruling of the first opinion of the Court of Appeals is completely ignored by the second opinion.

Space here does not permit a complete analysis of all the inconsistencies between the second opinion, on the one hand, and the findings of Judge Grady and Mr. Justice Stevens on the other. The following quotes, however, are some of the examples of where

* Appendix C, pages C-2, C-3.
** Appendix C, page C-3.

in the second opinion the Court of Appeals drew its own inferences and assumptions, contrary to Rule 52(a) and the *Zenith* decision,* to reverse the district court's findings of fact (emphasis added throughout):

> ". . . it *seems* to us less likely . . ." (Appendix A, page A-11).
>
> "Giving appropriate weight to the *inferences* that must be drawn . . ." (*Id.*, page A-12).
>
> "In view of the *likelihood* . . ." (*Id.*, page A-11).
>
> ". . . there *appeared* to be evidence . . ." (*Id.*, page A-2).
>
> ". . . but we *assume* the same view carried over . . ." (*Id.*, page A-5, n.3).
>
> ". . . it *seems* to us unlikely . . ." (*Id.*, page A-7).
>
> ". . . *apparently* referring to this . . ." (*Id.*, page A-8).
>
> ". . . *apparently* because of uncertainty . . ." (*Id.*, page A-5).

Such a departure from the standards and procedures of Rule 52(a), as mandated by this Court in the *Zenith* case, calls for an exercise of this Court's supervisory power to restore proper standards of appellate review for litigants in the Seventh Circuit.

The Court Of Appeals Decision Is In Direct Conflict With This Court's Mandate In The *Zenith* Case.

In the *Zenith* case** the district court credited the testimony of certain witnesses to establish that Zenith had been damaged by a foreign patent pool. The Seventh Circuit Court of Appeals did not refuse to credit this testimony but it considered it of insufficient weight to prove injury to Zenith's business and therefore reversed

* *Supra*, pages 9-10.

** *Id.*

the district court's finding of fact of damage to Zenith. In reversing the Court of Appeals, this Court held that in this respect the Court of Appeals "gave insufficient deference to the findings of the trial judge" and also failed to adhere to this Court's teachings regarding the standard of proof in treble-damage actions.*

In the instant case, the Court of Appeals neither credited nor discredited—it said nothing—about the lengthy testimony of Klass, which testimony the district court found to be "very credible" and relied upon heavily. The Court of Appeals said nothing about the key finding of Mr. Justice Stevens, which was made after careful study of Klass' testimony,** that if Klass' testimony were credited, the evidence would be sufficient to support findings of fact establishing Petitioners' defense. Aside from the many other instances where the Court of Appeals decided factual issues de novo, the total disregard by the Court of Appeals of Klass' lengthy testimony and the key finding thereon by the prior decision of the Court of Appeals is directly contrary to this Court's mandate in the *Zenith* decision concerning the standards of appellate review under Rule 52(a).

Petitioners respectfully submit that this departure from the *Zenith* case, and Rule 52(a), is so clear that it calls for the exercise of this Court's power of super-

* 395 U.S., at 124.

** His opinion stated:

> ". . . Moreover, the lengthy testimony of the witness Klass, which we have studied with care, contains sufficient assurance that the offered exhibit [DX 48] was one of the devices ordered in January and received in April to have justified its admissibility." (Appendix D, page D-14; footnote omitted).

vision, not just to correct an erroneous decision by the Court of Appeals, but to reaffirm the principles of Rule 52(a) enunciated in the *Zenith* decision to restore confidence in the orderly judicial action, predictability, and fairness of the judicial system for both trial judges and litigants in the Seventh Circuit.

Contrary To This Court's Mandate In *Insurance Group Committee v. Denver & R.G.W.R.R.*, The Court Of Appeals Completely Disregarded The "Law Of The Case" Set Forth In The Previous Court Of Appeals Decision, Without Finding Any "Unusual Circumstances."

Based upon documents (DX 38 and DX 39), Mr. Justice Stevens found that the Piher devices tested in the *United States* by Klass after the critical date (March 16, 1969), were shipped from Barcelona on March 3, 1969 and thus reduced to practice prior to the critical date (Appendix D, page D-10). The Court of Appeals said:

> "Moreover, Klass' testimony about the tests performed under his direction, together with evidence that these devices were shipped from Barcelona on March 3, 1969, was sufficient to justify the inference that the Piher control had been reduced to practice prior to the critical date."*

The decision of the second panel of the Court of Appeals introduced a completely new evidence requirement to the case. Specifically, the second opinion concluded:

* Appendix D, page D-14. Although Judge Grady did not find that the devices were shipped on March 3, 1969, he was clearly convinced that they were in existence as of March 3, 1969 (Appendix C, pages C-4 and C-6), and thus reduced to practice for the reasons delineated by the first panel of the Court of Appeals.

> "Giving appropriate weight to the inferences that must be drawn from the unexplained absence of direct evidence of reduction to practice, we cannot say that the record supports a finding, based on 'clear and convincing' evidence, that the PT-15s received by Motorola on April 7, 1969, were complete and proved operable *by tests conducted in Spain prior to March 16, 1969.* Accordingly, the judgment is reversed, and the case is remanded for the entry of an appropriate judgment in favor of plaintiff [CTS]." (Appendix A, page A-12; emphasis added).

Absolutely nothing was said in the first opinion about "tests conducted in Spain", nor was any such evidence *proffered* by Piher (because of its reliance upon the first opinion of the Court of Appeals), as now required by the second opinion. Absolutely nothing was said in the first opinion about any "direct evidence of reduction to practice" relied upon in the second opinion.

Moreover, not only did Judge Grady find that "the PT-15s received by Motorola on April 7, 1969, were complete and proved operable" (i.e., a completed device reduced to practice), CTS expressly *conceded* this fact.* The second opinion also ignored this CTS concession.

The ruling in the second opinion that Piher had to prove testing of the devices in *Spain*, *before* the critical date, is an unequivocal and unexplained departure from the law of the case established in the first opinion. The findings of the first opinion are the "law of the case" and findings in the second opinion contrary thereto ordinarily are foreclosed. This Court has described this doctrine as follows:

* Appendix C, page C-8.

> ". . . When matters are decided by an appellate court, its rulings, unless reversed by it or a superior court, bind the lower court. Thus a cause proceeds to a final determination. While power rests in a federal court that passes an order or decision to change its position on a subsequent review in the same cause, orderly judicial action, except in unusual circumstances, *requires* it to refuse to permit the relitigation of matters or issues previously determined on a former review." (emphasis added)

Insurance Group Committee v. Denver & R.G.W.R.R., 329 U.S. 607, 612, 67 S.Ct. 583, 585, 91 L.Ed. 547 (1947) (footnote omitted). No substantial surprise evidence was introduced upon remand, no law-modifying Supreme Court decision was handed down between the two Court of Appeals opinions, and there is no expressed conviction in the second opinion that the first opinion was erroneous. Accordingly, there are no "unusual circumstances" rendering the "law of the case" doctrine inapplicable in this case, and none were stated by the Court of Appeals.

The "law of the case" doctrine has substantial merit in that it promotes orderly judicial action to thus give litigants some degree of predictability in judicial proceedings. It prevents unfair surprises. It permits district court judges to rely upon prior rulings of the Court of Appeals for guidance. For these reasons, also, the Writ should be granted.*

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* Petitioners were surprised, and by Petition for Rehearing requested the right to present or explain the absence of the newly-required evidence. This was refused.

The Court of Appeals Modification Of Its Second Opinion Is A Complete *Non Sequitur*.

In denying Piher's Petition for Rehearing, the Court of Appeals modified its opinion "by adding as a penultimate sentence of the opinion the following:

> The district court's finding on this point was clearly erroneous." (Appendix B, page B-2)

This is the only reference in the entire second opinion to "clearly erroneous". The sentence immediately preceding the added sentence states that the record does not support a finding that the Piher devices were "complete and proved operable by tests conducted in Spain prior to March 16, 1969."* But the district court made no finding in any respect regarding "tests conducted in Spain". Nor did the first opinion of the Court of Appeals make any finding regarding "tests conducted in Spain". No evidence on the point was ever submitted.

Thus the second opinion of the Court of Appeals not only places principal reliance upon "tests conducted in Spain" despite the absence of consideration of any evidence on this point in either Judge Grady's opinion or Mr. Justice Stevens' opinion, but also specifically amends its opinion to say that a nonexistent "finding" is clearly erroneous.

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* Quoted in full *supra* at page 17.

CONCLUSION

Wherefore, Petitioners respectfully submit that the second opinion by the Court of Appeals is contrary to the standards and procedures of Rule 52(a), and is in direct conflict with this Court's mandates in *Zenith v. Hazeltine* and in *Insurance Group v. Denver*. The Court of Appeals has so far departed from the accepted and usual course of judicial proceedings with respect to Rule 52(a), and this Court's mandates, as to call for an exercise of this Court's supervisory powers and issue the Writ.

Respectfully submitted,

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APPENDIX A

In the
United States Court of Appeals
For the Seventh Circuit

No. 78-1535

CTS CORPORATION,

Plaintiff-Appellant,

v.

PIHER INTERNATIONAL CORPORATION and PIHER SOCIEDAD ANONIMA,

Defendants-Appellees.

Appeal from the United States District Court for the Northern District of Illinois, Eastern Division.
No. 72-C-1891—**John F. Grady**, *Judge.*

ARGUED JANUARY 24, 1979—DECIDED FEBRUARY 23, 1979

Before CUMMINGS, *Circuit Judge*, MARKEY, *Chief Judge*,* and TONE, *Circuit Judge.*

TONE, *Circuit Judge.* The only issue we reach on this appeal is whether the evidence presented by the defendants in this patent infringement action is sufficient to support the district court's finding that their variable resistor was "on sale" in the United States, within the meaning of 35 U.S.C. § 102(b), prior to March 16, 1969. That finding was made after a retrial of the on-sale

* The Honorable Howard T. Markey, Chief Judge of the United States Court of Customs and Patent Appeals, is sitting by designation.

issue pursuant to our remand in *CTS Corp. v. Piher International Corp.*, 527 F.2d 95 (7th Cir. 1975), *cert. denied*, 424 U.S. 978 (1976). We hold that the evidence was insufficient and therefore reverse.

The facts leading to this litigation and the technology involved are discussed in our prior opinion and will not be repeated here, except as necessary to understand the on-sale issue. Variable resistors, or potentiometers, are "used to adjust the electrical resistance of an electronic circuit to a desired level. The volume and tone controls on a television or radio are examples of variable resistors." *CTS v. Piher, supra*, at 97. Variable resistors are of two types: (1) customer adjustable (examples of which are the volume or tone controls just described), and (2) factory set. It is the latter type, sometimes referred to as a "trimmer," that is involved in this case. [Tr. 482, 488.]

In 1972, CTS Corporation filed suit against Piher Sociedad Anonima and its American subsidiary, Piher International Corporation,[1] alleging that their PT-15 resistor infringed several CTS patents, two of which were Patent No. 3,518,604 on "Electrical Component" issued June 30, 1970, and Patent No. 3,670,285 on "Variable Resistance Control with End Collector" issued June 13, 1972. *See CTS v. Piher, supra*, 527 F.2d at 97-98 & nn. 1-3 & 11. Although CTS withdrew its claim that the PT-15 infringed the '285 patent, Piher counterclaimed, charging that both patents were invalid. *Id.* at 98. In the first trial of this case, the district court upheld the validity of both patents and found that the PT-15 infringed the '604 patent. On appeal, we affirmed the judgment as it related to the '604 patent. *Id.* at 101. But because we found that the district court had erroneously excluded evidence supporting Piher's contention that the '285 patent was invalid under § 102(b), we remanded the case "for a new trial of all issues raised by Piher's on sale challenge to the validity of the '285 patent." *Id.* at 105.

[1] The two corporations are collectively referred to herein as "Piher."

At the first trial, Piher introduced evidence and made offers of proof tending to show that in the fall of 1968 Piher had shown prototypes of the PT-15 resistor to the manager of International Materials for Motorola, Inc. *Id.* at 102. Further, there appeared to be evidence that Motorola ordered a trial run of these resistors on January 22, 1969, that Piher shipped some resistors on March 3, 1969, and that Motorola received some resistors in April, 1970. After receiving the resistors in April, Motorola tested them and found them operable. There was evidence, however, showing that Piher's PT-15 had been modified from time to time, and "[t]hus, the character of the devices shipped by Piher on March 3, 1969, was of critical importance." *Id.* at 103. This court expressly declined to make the requisite findings of fact because "the question of credibility and the interpretation of the exhibits are matters that must be decided in the first instance by a trial judge." *Id.* at 105.

On remand, the district judge, making his findings orally, and apparently extemporaneously, immediately following the conclusion of the trial, found that Piher had carried its burden of proving that a PT-15 which disclosed the essential elements of the '285 patent, *id.* at 103, was "on sale in this country more than one year prior to the application for patent in the United States," 35 U.S.C. § 102(b), and therefore the '285 patent was invalid. CTS's assignor applied for what became the '285 patent on March 16, 1970. *CTS v. Piher, supra*, at 97 n. 2. Thus the critical date for establishing the § 102(b) claim of invalidity is March 16, 1969.

The governing rule laid down in *CTS v. Piher* is that it was unnecessary for Piher to prove a completed sale of the PT-15 in the United States prior to March 16, 1969, in order to establish the on-sale defense under § 102(b), and that if before that date Piher was

> offering to prospective purchasers in the United States a product which (a) embodied the '285 invention and (b) was complete in the sense that it represented a reduction of the invention to practice, the invention was on sale within the meaning of the statute and the '285 patent is invalid.

527 F.2d at 103. CTS makes certain arguments concerning the proper interpretation and even the correctness of our earlier decision which we need not address. We assume for purposes of this case that it would be enough that the invention was reduced to practice in Spain before the critical date even if the initial offer pursuant to which the prospective customer placed an order was made before the reduction to practice. Our decision is based upon our conclusion that the evidence was insufficient to support a finding that Piher established reduction to practice in Spain before March 16, 1969.

We made it clear in our prior opinion that Piher had the burden of proving reduction to practice before the critical date. *Id.* at 103. We noted a fact that made this burden more onerous, *viz.*, "there is evidence in the record that the trimmer has been modified from time to time." *Id.* We also indicated that the burden must be met by clear and convincing evidence. *Id.* at 105; *see also Red Cross Manufacturing Corporation v. Toro Sales Company*, 525 F.2d 1135, 1139 (7th Cir. 1975).

Reduction to practice may be established without proof that the device would have been commercially successful, if marketed. *Dart Industries v. E. I. duPont de Nemours, Inc.*, 489 F.2d 1359, 1365 & n.11 (7th Cir. 1973). Nevertheless, the device must be shown to have been tested and found operable.

The district judge made two findings on dates of reduction to practice: He found that the PT-15 had been reduced to practice by Piher in Spain in November 1968; and he found separately that completed devices were in existence in Piher's possession in Spain on about March 3, 1969. If either finding were sustainable, the requirement of reduction to practice would be satisfied. We therefore examine both findings.

Before addressing the evidence relevant to each finding, we note a circumstance that weighs heavily against Piher and diminishes the force of the evidence it introduced. We refer to the unexplained absence of the kind of evidence we would normally expect to see in a case of this kind, *viz.*, Piher's records of the

development,[2] testing, and production of the device Piher alleged it had reduced to practice before the critical date. The district court refused to draw any inference adverse to Piher from this circumstance, apparently because of uncertainty as to record-making and record-keeping practices in Spain.[3] If Spanish business practices were the reason for Piher's failure to produce the records, it was for Piher to so demonstrate, not for the court to assume the fact without proof. Piher's failure either to produce the records or to offer an explanation of why they could not be produced gave rise to an inference that they were unfavorable to Piher. See 2 J. Wigmore, *Evidence* §§ 285, 291 (3d ed. 1961 & Supp. 1977). This inference is especially telling in view of Piher's burden of proving reduction to practice by clear and convincing evidence.

If the alleged reduction to practice in Spain occurred before the critical date, it was achieved by Piher employees. The absence of documentation was compounded by Piher's failure to offer testimony by any per-

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[2] Piher applied for a Spanish patent on the PT-15 in the summer of 1968. (It does not rely on this fact as proof of reduction to practice.) The question arises how Piher would have proved the date of invention without records, if such proof had been necessary in the Spanish patent proceeding.

[3] The judge's comments on this subject related to production records, but we assume the same view would carry over to development and test records as well. He said,

> I think the evidence adduced by Piher could have been more complete on this point, although again I am not sure. But it seems to me there must have been at least at some time some production records. Ordinarily factories do not produce things without some document indicating what was produced. Maybe they do it differently in Spain. I didn't hear anything in the record one way or the other on this point.
>
> So it seems to me that there may be documents that could have been produced that were not produced. But that is an assumption, and I don't think assumptions of that kind call for the application of the adverse inference rule. I do not apply that rule.

[Tr. 978.]

son who had participated in, or otherwise had direct knowledge of, the alleged reduction to practice in Spain before the critical date or to explain why testimony of this nature was unavailable. The silence from Spain leads to an inference unfavorable to Piher. 2 J. Wigmore, *supra*, § 286.

We turn now to the evidence Piher did offer.

In support of its finding that the PT-15 was reduced to practice in November, 1968 [Tr. 978-981], the district court relied almost exclusively on the testimony of Joel Adams, who was Motorola's European buying manager between 1966 and 1970. Adams testified that in November of 1968 he visited Piher's manufacturing plant near Barcelona, Spain, where he was shown samples of the PT-15 that "looked" complete. Adams also stated, however, that he did not "test" the samples or even examine their internal construction. And further, in response to a question from the court, Adams frankly stated that he "couldn't attest that they really worked electrically because I didn't test them." [Tr. 543-544.]

The evidence was clear that it was not until April, 1969, that Motorola received completed samples of the device the court found was complete in November, 1968, notwithstanding Motorola's repeated requests for such samples beginning in October, 1968. [D.Ex. 205.][4] The court found this evidence of receipt in April insufficient to support a conclusion that the samples had been shipped before March 16, 1969, but failed to make any finding as to when they were shipped.

Piher introduced in evidence as Defendant's Exhibit 48 one of the PT-15 variable resistors that the court found had been received by Motorola by April 7, 1969, and tested and found operable by Motorola in April, May, and June of 1969. The court found that this group of resistors, including Defendant's Exhibit 48, were

[4] Adams, whose testimony the district court found "very credible," testified that the discussion of the PT-15 in November, 1968 was a follow-up "on our request for samples in October of that year." [Tr. 502.]

"typical of those devices" shown to Adams in November of 1968. Yet the court acknowledged the force of CTS's argument that if the PT-15 was complete in November, 1968, it was unlikely that Piher would have failed to ship them until after March 16, 1969:

> [I]f the devices were available as early as November of 1968, why were they not given to Motorola at that time? Why was there so much difficulty getting samples? And why did they not arrive until April of 1969?
>
> I will tell you frankly that I think that is the strongest part of the plaintiff's case, and I have thought long about that.

[Tr. 980.] Adams testified that the resistors shown in the fall were not of the proper "value," and Piher argued that this explained why no shipments were made until the next spring. The court, however, characterized as "telling" CTS's argument "that these devices were manufactured in the first instance specifically for Motorola and there is no reason to think they would not have been of the proper value," stated that it had "difficulty" with the question, but nevertheless proceeded to find without further explanation that the devices were completed in November but were not of the proper value. [Tr. 980-981.]

Motorola's October, 1968, request for working samples [D. Ex. 205] indicated an interest in resistors in a range of specified values. So far as the record shows, Motorola was Piher's only sales prospect at that time. As early as September, 1968, a meeting with Motorola representatives had been scheduled for November. In the absence of any explanation, it seems to us unlikely that Piher, which had planned for the meeting since September and was aware in October of the values Motorola was interested in, would produce complete resistors to be shown to representatives of Motorola in November with values different from any value Motorola had specified.

During the period in question Ricardo Balil, president of Piher's American subsidiary, regularly sent Telexes

to Piher in Spain reporting on his selling activities in the United States. One of these reports, dated February 17, 1969 [D. Ex. 66], relates to a prospective customer other than Motorola and contains the following statements:

> Please send two units of each of the PT-15. It doesn't matter value. They are interested in the different types of assembly or mounting.[5]

Ten days later, apparently referring to this and other similar requests by Balil, Piher responded with the statement that when the devices were in production, which would be in about two or three weeks, Piher would send some of the devices to Balil. [P. Ex. 133.] The record does not show when, if ever, this promise was fulfilled. Nor does the record contain any explanation of why, if the PT-15 was complete in November and the only problem was the proper value, as the court found, Piher did not promptly send Balil a few complete samples of any value, in compliance with his request of February 17.

In view of the events just described, it is not surprising that the district court was not persuaded that Balil had brought resistors identical to the ones received by Motorola in April, 1969 from Spain in December of 1968, despite his testimony that he had done so. The court also refused to accept Balil's testimony that he had shown "completed samples" to prospective customers in the United States during January and February, 1969, although if completed samples had been available it is difficult to believe Balil would not have had some to show.

We conclude that Piher fell far short of proving by clear and convincing evidence that its PT-15 was reduced to practice in November, 1968.

We turn finally to the district court's finding that the PT-15s received by Motorola on or about April 7, 1969

[5] This report and the response described in the next sentence of the text were in Spanish and were translated during the testimony at trial. [Tr. 106, 243.]

were complete on or about March 3 of that year.[6] That finding stands in contrast to the court's expressed conclusion that the evidence was insufficient to show the devices were shipped before March 16, 1969. The relevant evidence consists of three documents: (1) a packing slip dated March 3, 1969 listing quantities of four types of PT-15s described by Piher's part number but not serial number or other reference identifying any specific device [D. Ex. 38];[7] (2) a memorandum of the same date from the planning department of Piher's Spanish plant to Balil, presumably, but not explicitly, referring to the same group of PT-15s listed in the packing slip and stating that they were "attached" [D. Ex. 39];[8] and (3) a letter from someone at Piher's Spanish plant to Adams' assistant at Motorola dated March 7, 1969, stating that Motorola's purchase order number 295801,[9] which was for a total of 1100 resistors, 110 of each of ten types, had

[6] We assume for present purposes that this finding would be sufficient to satisfy the requirement of reduction to practice, through the inference that what was later found operable must have been so at the earlier, critical time.

[7] The description is as follows: (1) twenty-one PT-15 LB 100Klin, (2) twenty-three PT-15 LD 1Klin, (3) twenty-eight PT-15 MB 100Klin, and (4) thirteen PT-15 MD 1Klin.

[8] At trial this document, written in Spanish, was translated by Balil as follows:

> We attach samples of the PT-15, models LB, LD, MB, MD, to be sent to Motorola to be tested. In spite of sending those samples, it will be open, the purchase order, 295801 of 100 units of several codes or part numbers.

[Tr. 145-146.]

[9] Motorola's purchase order [D. Ex. 45] is dated January 22, 1969. At trial Adams explained that Motorola usually waited until after it had received and tested a new product before making a "trial run" order of this sort. Because of the difficulty he had in getting PT-15 samples from Piher, however, he decided to place a trial order as a stratagem for getting Piher to deliver some operable samples. [Tr. 503-505.]

been filled and shipped on March 6, 1969 [D. Ex. 211].[10] To the extent that the letter represents that the entire order had been filled and shipped, it is incorrect. [See P. Ex. 136, 137.] Adams' testimony that the first PT-15s received by Motorola in April were only a partial shipment and that the balance of the order was filled in the succeeding months, is uncontroverted. [Tr. 512-513, 565-566, 571.] On these three documents, which the court considered insufficient to establish that the PT-15s received in April were shipped on or before March 16, 1969, rests the finding that completed PT-15s existed almost two weeks before that date, on or about March 3.

The district court found that it was "more probable than not that the shipment of potentiometers received in the United States and delivered to [Motorola] on or about April 7th was the very shipment referred to in" the packing slip [D. Ex. 38]. [Tr. 976.] After expressing considerable doubt on the point, the court stated that it was "inclined to believe that the shipment represented by" the packing slip was what Motorola received by April 7 because there was "no evidence of any other shipment being received at about that time." [Tr. 977.]

It is apparent that the court applied a lower standard of proof than required under § 102(b), but, apart from that, we find it difficut to reconcile the court's inability to find from these documents that the samples referred to in the packing slip were shipped between the 3d and 6th of March, as the memorandum and letter recited, with the finding that the samples were completed on March 3d. We have already noted that Motorola had been pressing for the samples for months, and Piher had

[10] The letter is, in pertinent part, as follows:

Subject: P.O. 295801 new construction pot.

Dear Sir,

Regarding the status of subject potentiometers, please be advised that mentioned parts were sent yesterday to Ricardo Balil by air parcel post.

been promising that they would soon be available.[11] In view of this urgency, it seems to us less likely that if samples had existed they would not have been shipped than that the documents were the products of hope or misunderstanding, or both. We have noted that the letter was demonstrably inaccurate in one respect: the majority of the devices ordered were not shipped until much later. The evidence shows other instances in which Piher's documentation of shipment proved to be inaccurate. [Tr. 246-247.] In view of the likelihood that the samples would have been sent as soon as they were completed, we cannot understand how the same evidence that failed to establish that the samples were sent before March 16th did establish that they were completed before that date.

The district court clearly did not rely upon the only possible basis other than the three documents for concluding that the PT-15s received by Motorola in April were reduced to practice before March 16, 1969, *viz.*, the time required in 1969 for a package shipped air parcel post from Spain to reach the United States. The only evidence as to transit time was Balil's estimate of "two to three weeks," which the district court expressly rejected, presumably because it had found Balil unreliable as a witness on other points. The court "guessed" that it would take about seven to ten days. If the court's guess was accurate, the PT-15s received on April 7 might not have been completed and tested until March 29, 1969, after the critical date.[12]

[11] On October 15 Piher said the samples would be available in 20 to 25 days, on October 23, in about a month, and on December 16, in about a week. Yet we find Balil expressing surprise in February "about the new delay" because a Piher representative had said samples would be prepared by February 15. [P. Ex. 132; Tr. 244-245.]

[12] The district court also relied on its finding that Adams had seen what "looked" like complete devices in November of 1968 to corroborate its finding that "complete" PT-15s existed as of March 3, 1969. No further discussion of that finding is necessary.

Giving appropriate weight to the inferences that must be drawn from the unexplained absence of direct evidence of reduction to practice, we cannot say that the record supports a finding, based on "clear and convincing" evidence, that the PT-15s received by Motorola on April 7, 1969, were complete and proved operable by tests conducted in Spain prior to March 16, 1969. Accordingly, the judgment is reversed, and the case is remanded for the entry of an appropriate judgment in favor of plaintiff.

REVERSED AND REMANDED.

A true Copy:

Teste:

Clerk of the United States Court of Appeals for the Seventh Circuit

APPENDIX B

In the

United States Court of Appeals

For the Seventh Circuit

April 18, 1979.

Before

Hon. WALTER J. CUMMINGS, *Circuit Judge*
Hon. HOWARD T. MARKEY, *Chief Judge*•
Hon. PHILIP W. TONE, *Circuit Judge*

No. 78-1535

CTS CORPORATION,

Plaintiff-Appellant.

v.

PIHER INTERNATIONAL CORPORATION and PIHER SOCIEDAD ANONIMA,

Defendants-Appellees.

Appeal from the United States District Court for the Northern District of Illinois, Eastern Division.
No. 72-C-1891—John F. Grady, *Judge.*

• The Honorable Howard T. Markey, Chief Judge of the United States Court of Customs and Patents Appeals, is sitting by designation.

ORDER

The opinion in this cause issued February 23, 1979, is modified by adding as a penultimate sentence of the opinion the following:

> The district court's finding on this point was clearly erroneous.

Except for the foregoing modification of the opinion, the petition of defendants-appellees for rehearing and suggestion for rehearing in banc, no judge in active service having requested a vote thereon, is Denied.

APPENDIX C

970 Before I announce my findings of fact and conclusions of law, I would like to say that in this case, as in the other two patent cases I have tried, it has been a great pleasure for me to preside due to the quality of the lawyering on both sides. All counsel were well prepared on the facts and on the law and presented the case in an interesting and intelligible fashion.

In telling you what I believe the facts are, I think I will start my time clock in Christmas of 1968. I am not satisfied from the evidence that Mr. Balil brought back with him from Spain devices identical to Exhibit 48. The only evidence we have of that is Mr. Balil's own recollection, and I regard his recollection in that respect as not being sufficiently corroborated by other evidence to justify a finding that he is correct about it.

Had he shown these completed devices to other companies, it seems to me that witnesses from those companies could have been produced. Perhaps even documents from those other companies could have been produced to substantiate that fact.

I am influenced in this particular finding by the fact that this testimony about bringing PT's home from Spain at Christmastime is a new bit of evidence at this trial. It was not previously testified to, and it is so entirely self-serving that I think the Court
971 should regard it with a proper degree of skepticism.

I have no doubt that Mr. Balil was making sales trips, because those sales trips in January and February are corroborated by his memoranda to the home office. But there is nothing in those memoranda which leads me to believe that he was showing completed samples. I do not say he wasn't. It is just that I am not convinced that he was.

His testimony at this trial was that the mechanical, non-electrical sample was just as good for purposes for showing customers as was the completed device.

So on that particular aspect of the case I find the fact against the defendant.

Now, the next thing I would like to talk about is what Mr. Adams and Mr. Klass received in April of 1969. Mr. Klass testified clearly that it was a group of devices identical to Exhibit 48. When I refer to Exhibit 48 in this discussion, I will be intending to include both 48 and 48-A, and that, of course, is corroborated by the fact that Exhibit 48 and Exhibit 48-A were in his file, attached to his file, and bore numbers corresponding to the very items that were tested by the Motorola laboratory.

Moreover, Mr. Klass testified that he took the device apart before he sent it to the other laboratory for testing. He said that was his practice, because, had he not been satisfied with the internal composition of
972 the device, he would not have carried the process any further.

So I find on the basis of what I believe to be clear and convincing evidence that what Mr. Klass received in April of 1969 was a group of devices which included and which were identical to Defendants' Exhibit 48.

I would like to comment briefly on the credibility of Mr. Klass. I found him to be a very credible witness. The fact that he relied so heavily upon documents in testifying to transactions which occurred nine years ago and was reluctant to commit himself under oath as to anything very specific that was not supported by a document was, in my view, something which enhanced his credibility, rather than detracted from it.

The record will not show this, but Mr. Klass frequently hesitated before answering questions, and it was apparent to me that some of the questions asked by counsel for both parties seemed to him to be somewhat strange, and he would think awhile before he would answer, and he would want to check the document to make sure that he was right.

He spoke with a foreign accent, which I take to be Scandinavian, perhaps Swedish.

Mr. Rohrback: German, your Honor.

The Court: German? Is that it? It sounded more like a Swedish accent.

973 He reminds me of tool and die makers I have known. They are very precise and methodical people. He struck me as that kind of person. And when he says that based upon the documents that he looked at and based upon his own recollection of the matter, he is satisfied that he had Exhibit 48 in his possession on or before April 7, 1969, I have no doubt whatever that he is correct in that.

Mr. Adams also identified Exhibit 48 as apparently being identical to the potentiometers he saw in April of 1969, and I regard Mr. Adams as another very credible witness, a very careful man, who I believe testified truthfully to the facts as he recalls them and as he believes them to be.

I am not unmindful that although these two witnesses have no personal stake in this controversy, certainly the company for which they work has an apparent stake in the success of the Piher potentiometer, and I of course have considered that fact in evaluating their testimony.

But notwithstanding that apparent reason for some bias, I do not believe these witnesses displayed any bias.

Now, if a shipment of devices identical to Exhibit 48 was received in the United States by April 7, 1969,
974 it follows that they must have been shipped from Spain prior to that time. The question is when.

Here again I think the defendant may have been able to do a better job in adducing evidence on this question. Its reliance upon the shipping document and its failure to call any witness who may have had first hand knowledge of the date of shipment is something that I have taken into consideration.

On the other hand, I am also cognizant of the fact that very often all a witness can say under those circumstances is, "Here is a document. I haven't the slightest recollection of having ever seen it before in my life, and all I can tell you is that this is the kind

of document we use in the circumstances, and the meaning of it, according to our custom and usage, is as follows."

So I do not believe this is a case that calls for the application of the rule that the failure to adduce evidence raises the inference that had it been adduced, it would have been adverse to the proponent of the proposition.

Now returning to the question I posed a few minutes ago, "When did this shipment occur?" I am not persuaded from Exhibit 38 and from Exhibit 39 or from Exhibit 211, or a combination thereof, that it occurred on or about March 3, 1969. I do not think those documents will establish that fact. Nor does the testimony of Mr. Balil establish that fact. It is
975 not even clear to me that the date on the shipping document is intended to designate the date of shipment as distinguished from the date of the preparation of the document, because the word "fecha" that I asked about simply means "date". One could assume that "date" is intended to mean the date of shipment. But when you are talking about clear and convincing evidence, I could not find from clear and convincing evidence that this shipment took place on March 3, 1969, or even within a day of two after that date.

What I do believe these documents indicate is an intention on the part of Piher to ship these potentiometers described in Exhibit 38 at about that point in time. There is nothing about those documents that has any of the earmarks of non-regularity. Exhibit 38, Exhibit 39, and the letter, Exhibit 211, were obviously prepared in the ordinary course of business by persons who were not manufacturing evidence, by persons who were not contemplating litigation, and by persons who I believe thought they were recording actual facts and actual transactions that were taking place contemporaneously.

976 Now, on the basis of these documents, and on the basis of the whole evidence in the case, I cannot find

that this shipment of potentiometers left Spain prior to the critical date, March 16, 1969. They may have left before March 16th. They may not have left before March 16th. It would take a gambler to bet either way on that proposition.

Therefore, all I can say, on the basis of the shipping evidence, is that the shipment of potentiometers received at Motorola in the United States on or prior to April 7, 1969, obviously left Spain the minimum time prior to that which would be necessary to fly them over here by air parcel post.

The evidence as to how long that is is not satisfactory. Mr. Balil gave an estimate. I think he said two to three weeks. I do not accept that as proof that this shipment left Spain two to three weeks prior to April 7th.

If I were to guess, I would say it would have had to have left Spain seven to 10 days before April 7th, but that would be a guess.

Turning to the next subject, I think it is probable and certainly more probable than not that the shipment of potentiometers received in the United States and delivered to Mr. Klass on or about April 7th was the very shipment referred to in Exhibit 38.

977 I confess one can argue either way about these numbers and the number of potentiometers you would have had to have had to perform these tests. When I was listening to Mr. Wyss I was impressed with his argument. When I listened to Mr. Trexler, I was impressed with his argument.

I frankly would have to take more time to study the documents and study the mathematics involved than I have to come to a definite conclusion on it, and maybe I couldn't come to a definite conclusion even then.

But simply on the basis that there is no evidence of any other shipment being received at about that time, there are no other documents, on that basis I am inclined to believe that the shipment represented by Exhibit 38 is what Mr. Klass received.

But be that as it may, there is absolutely no doubt that what he did receive he received from Piher.

Now, the next question is when was Exhibit 48 and its companion potentiometers that were received in April in the United States manufactured? Obviously they had to have been manufactured prior to that minimum time that was necessary to ship them here and have them arrive by April 7th.

I think the evidence adduced by Piher could have been more complete on this point, although again I
978 am not sure. But it seems to me there must have been at least at some time some production records. Ordinarily factories do not produce things without some document indicating what was produced. Maybe they do it differently in Spain. I didn't hear anything in the record one way or the other on this point.

So it seems to me that there may be documents that could have been produced that were not produced. But that is an assumption, and I don't think assumptions of that kind call for the application of the adverse inference rule. I do not apply that rule.

Now, there are documents which convince me that Exhibit 48 and its companions were in existence as early as March 3, 1969. I agree with Mr. Trexler's argument on the matter of the significance of these shipping documents, Exhibits 38, 39, and the letter Exhibit 211. Regardless of what they indicate about the shipping date, they clearly indicate the existence of the potentiometers referred to therein.

There is another factor that corroborates the documents in this regard, and we now come full circle to Mr. Adams' trip to Spain in November of 1968. I have no doubt on the basis of Mr. Adams' testimony that he saw at Piher in Spain in November of 1968 devices which looked to him to be identical to those
979 devices he later saw in April of 1969 in Illinois. This was a major item in Mr. Adams' business life at that time. He spent a half day, he said, discussing these potentiometers at Piher, and he satisfied me that he does indeed remember seeing these various devices

or devices which looked identical to Exhibit 48 at that time.

Now, the Plaintiff questioned whether these devices were complete, whether they contained all of the components, and I believe that there is no reason to doubt that they did. They appeared to be complete devices. Obviously nothing was said by Piher at that time to the effect that they were not completed devices. Otherwise, Mr. Adams would not have left there with the impression that they were completed devices.

I am not violating my ruling on hearsay by saying that, because I am not taking into consideration anything Piher said at that time. But I do think it is significant that Mr. Adams left there with the impression that these were completed devices, and had he been informed otherwise, he wouldn't have had that impression.

There is no evidence that Piher was attempting to dissemble about the matter. They had used incompleted or uncompleted devices as samples before this time and had made no bones about it. Indeed, Mr. Adams himself had seen such non-electrical devices and had been impressed by them, and they had been sufficient to engender his interest in buying the device.
980 I find, therefore, that completed devices identical to Exhibit 48 were shown to Mr. Adams in Spain in November of 1968.

Mr. Adams had been confused earlier, at the earlier trial, about when he went to Spain. His explanation of that was reasonable. I think it was an innocent mistake. I do not regard his credibility as having been impeached by the disclosure he was wrong about that.

The question arises, if the devices were available as early as November of 1968, why were they not given to Motorola at that time? Why was there so much difficulty getting samples? And why did they not arrive until April of 1969?

I will tell you frankly that I think that is the strongest part of the plaintiff's case, and I have thought long about that.

The explanation offered by the defendant is that the devices that were available were not of the proper value. Mr. Wyss made a telling argument to the effect that these devices were manufactured in the first instance specifically for Motorola and there was no reason to think they would not have been of the proper value.

I have difficulty with that argument, and notwithstanding that difficulty, I still have concluded and am convinced that these completed devices were available
981 at the Adams' meeting in November of 1968 and I can only conclude that Mr. Adams is correct when he says that they were not of the proper value.

The next question is whether what was delivered in April of 1969 was a completed device reduced to practice within the meaning of the statute and within the meaning of the Court of Appeals' decision in this case. There is no question about that. It has been conceded by the plaintiff that that is the case.

The next question is whether this device was being offered for sale by Piher prior to the critical date, March 16, 1969. I realize that "offered for sale" is really a mixed question of law and fact, but I find that there is absolutely no doubt that it was being so offered, if I understand the term "offered". It was offered for sale in the November meeting in Spain. The correspondence by Mr. Balil to his home office requesting the samples indicates a continuing concern by a Piher representative that these items will be delivered, that they be shown, that they be offered to the customer.

Finally, the letter, Exhibit 211, is clear evidence that Piher is offering these devices for sale to Motorola.

Now, I do not believe that the law, in talking about
982 offer and sale in this context, is talking about the strict contractual or is using those terms in the strict contractual sense of offer and acceptance. Indeed, the very case which plaintiff gave me last night, the case of Wende against Horeen indicates that it is not necessary that there be a sale or delivery, and certainly Justice Stevens' language in the CTS against Piher case indicates that that is so.

To conclude the factual portion of the discussion, then, I find by evidence which I regard as on the whole clear and convincing that Piher had on hand in Spain prior to the critical date completed potentiometers, that it was offering to sell and had offered prior to the critical date to sell to Motorola in the United States, and that Motorola was interested in purchasing those potentiometers.

Turning to the conclusions of law that one draws or applies to these facts, I think first I would like to exclude what I think the legal issues are not.

First of all, I do not believe the issue is whether the devices were shipped prior to the critical date. The evidence does not prove that they were, and if that were the legal issue, clearly the plaintiff would be entitled to prevail.

Secondly, I do not believe the issue is whether the
983 devices were received in the United States prior to the critical date. We know that they were not, and if that were the issue, again the plaintiff would be entitled to prevail. In fact, I think this case would not have been remanded if that were the issue.

I do not think that the question of whether the devices received by Motorola are the same devices that were shipped pursuant to the shipping or packing slip, Exhibit 38, is the issue.

If these devices had come over in some manner totally aside from the documents upon which I have spent some time here, they would still have arrived by April 7th, and they still would have been typical of those devices which were in existence as early as November of 1968, and that would be sufficient.

Moreover, I do not think the issue is whether or not the shipment represented by Exhibit 38 was made pursuant to the order shown in Exhibit 45. I think the significance of Exhibit 45 is that it demonstrates by a document the interest that Motorola had in acquiring

these devices. But had there been no written order at all, I do not see that it makes any difference.

984 So if there is a discrepancy between Exhibit 45 and Exhibit 38, I regard that as immaterial. Obviously, Exhibit 38 can only be a partial filling of the order represented by Exhibit 45. But I do not regard that as a material fact in the case.

Those, I think, are the non-issues. I will now tell you what I think the issue is.

I believe that the issue is whether there was a completed device reduced to practice that was in existence anywhere in the world and being offered for sale by Piher on or before the critical date.

That is the single issue that the case boils down to, in my view of it, and the answer to that question is clearly and convincingly in the affirmative, in my view of the evidence.

I therefore conclude that the Defendant has established by clear and convincing evidence that its PT 15 potentiometer, embodying the Plaintiff's 285 invention, was on-sale within the meaning of Section 102 (b) of the statute prior to the critical date, March 16, 1969.

Now, if there are any other facts that I should find, if you will tell me what they are, I will make findings.

Mr. Wyss: I don't think so, your Honor.

Mr. Trexler: I know of none.

The Court: All right.

985 Now, the other case, the 1976 case, tell me about that.

Mr. Blackstone: That is an infringement case, and we have stipulated that if the Plaintiff were to prevail in this and the Patent Office, the Defendant would concede infringement. Since the Defendant has prevailed here, that stipulation would wash out the 1976 case, in my opinion. It should be dismissed with prejudice.

Mr. Wyss: In the 1976 case, your Honor, the stipulation is that when this issue was finally disposed of

—so I think it just has to set and wait to see whether an appeal is taken in this case.

The Court: I am wondering if we can dismiss it at this time, obviously on the understanding that if there is a reversal here, everything gets reinstated, including the 1976 case.

Mr. Wyss: We have no objection to that.

The Court: Why don't we do that? That way we'll get it off my call.

Mr. Wyss: There is one other item, and that is the item of costs.

As you recall, the cost item was before the Court of Appeals. We won on three issues, but because of the cost situation, costs were awaiting the decision of this Court.

986 I assume under the Seventh Circuit Rule no costs will be awarded, because there is no prevailing party.

The Court: That sounds reasonable to me.

Mr. Blackstone: We won't object, your Honor.

The Court: All right. Then we will provide that there shall be no costs to either side.

Thank you, gentlemen, for a very interesting case. I am sorry you could not both have won.

Mr. Wyss: Thank you, your Honor.

Mr. Rohrback: Thank you, your Honor.

The Court: Surely you have factual findings that squarely present the question of law that you really have some differences about.

Mr. Wyss: Yes.

The Court: All right. Thank you.

Mr. Rohrback: Thank you for your thoughtful consideration, your Honor.

Mr. Trexler: And thank you for your attention. You had a lot of thinking to do on a case of this kind.

(Which Were All Of The Proceedings In The Above-Entitled Cause On The Days And Dates Aforesaid.)

987 [Certificate of Court Reporter.]

APPENDIX D

In the United States Court of Appeals For the Seventh Circuit

No. 75-1100

CTS CORPORATION,

Plaintiff-Appellee,

v.

PIHER INTERNATIONAL CORPORATION and PIHER SOCIEDAD ANONIMA,

Defendants-Appellants.

Appeal from the United States District Court for the Northern District of Illinois, Eastern Division
No. 72 C 1891
JULIUS J. HOFFMAN, *Judge*

ARGUED JUNE 11, 1975 — DECIDED DECEMBER 17, 1975

Before CLARK, *Associate Justice (Retired)**, STEVENS, *Circuit Judge,* and GRANT, *Senior District Judge.***

STEVENS, *Circuit Judge.* Appellants contend that the district court erroneously rejected their attacks on the validity of the '604[1] and '285[2] patents on variable resistance

* Associate Justice Tom C. Clark of the Supreme Court of the United States (Retired) is sitting by designation.

** Senior District Judge Robert A. Grant of the Northern District of Indiana is sitting by designation.

[1] Patent No. 3,518,604 on "Electrical Component" issued to appellee as assignee of Beaver and Van Benthuysen on June 30, 1970, pursuant to application filed February 12, 1968.

[2] Patent No. 3,670,285 on "Variable Resistance Control With End Collector" issued to appellee as assignee of English on June 13, 1972, pursuant to application filed March 16, 1970.

controls and erroneously found that their "PT-15" trimmer infringed the former patent. The '604 patent discloses a flared bearing used as a dust excluding seal of an aperture in the housing enclosing the control. The '285 patent describes a mechanical assembly which uses a metallic collector—an essential component of the control—as the base of the housing.

The principal issues on appeal are (1) whether one of appellee's earlier patents ('478)[3], which disclosed the use of a flared bearing to hold the components of the control together, made the '604 improvement obvious; (2) whether the failure to cite '478 to the Patent Office during the processing of the '604 application breached appellee's duty of disclosure; (3) whether reversal of the finding that the '604 patent has been infringed is required by either (a) the fact that appellants' PT-15 trimmer (which apparently is similar to appellee's '285 device) uses a metallic collector as a base, whereas the device described in the '604 specifications uses a nonconductor and admittedly would not function with a metal base, or (b) the fact that the PT-15 trimmer uses a flared bearing to seal only one of two openings in its housing; (4) whether the erroneous exclusion of critical evidence frustrated the presentation of a meritorious "on sale" challenge to the validof the '285 patent;[4] and (5) whether appellee's development of the '285 device was so abortive that either (a) it was not "useful" within the meaning of § 101;[5] or (b) the patent specifications failed to describe "the best mode" of carrying out the invention as required by § 112;[6] or

[3] Patent No. 3,375,478 on "Electrical Control And Method of Making the Same" issued to appellee as assignee of Van Benthuysen and Barden on March 26, 1968, pursuant to application filed May 11, 1964.

[4] 35 U.S.C. § 102(b) provides that a person shall be entitled to a patent unless the invention was ". . . on sale in this country, more than one year prior to the date of the application for patent in the United States. . . ."

[5] 35 U.S.C. § 101 provides that one who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

[6] 35 U.S.C. § 112 provides, in part:

"The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is

(c) the invention was "abandoned" within the meaning of § 102(c).[7] We shall briefly describe the product, the parties, and the posture of the case, and then discuss the facts in greater detail in connection with our consideration of the several issues.

A variable resistor—sometimes called a "potentiometer" or a "trimmer"—is used to adjust the electrical resistance of an electronic circuit to a desired level. The volume and tone controls on a television or radio set are examples of variable resistors. The essential elements of such a control include (1) a *driver*, or shaft, which may be turned manually or with a tool, such as a screwdriver; (2) a *contactor*, which is affixed to, and may be rotated by, the driver, and which makes electrical contact between the collector and the resistance element; (3) the *collector*, which must be a conductor of electrical current and is installed in a fixed position; and (4) the *resistance element*, which may be a horseshoe shaped sliver of carbon affording varying degrees of electrical resistance, depending upon the location of the contactor which may be swept from one end of the resistance element to the other by turning the driver. These elements may be arranged in a variety of configurations and sizes; in some designs they are enclosed within a dust excluding housing. The patents in suit relate to the mechanical structure rather than the electrical technology of the controls.

The parties are competitors in the manufacture and sale of electrical components for television sets. The appellants are a Spanish manufacturing corporation[8] and its affiliated American distributor,[9] which the district court found to be the "alter ego" of its parent. Since that finding is not challenged, we shall refer to the two simply as "Piher."

[6] (Continued)

most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention."

[7] 35 U.S.C. § 102(c) provides that a person shall be entitled to a patent unless "he has abandoned the invention, ..."

[8] Piher Sociedad Anonima.

[9] Piher International Corporation, an Illinois corporation with offices in Park Ridge, Illinois.

Appellee ("CTS"), an Indiana corporation,[10] originally accused Piher of infringing four of its patents.[11] Since one of these has now expired, and since only minimal damages are recoverable as a result of infringement of the second, Piher has not appealed from the holding that those two patents were valid and infringed. Moreover, by stipulation the parties withdrew the question whether Piher's PT-15 trimmer infringes the '285 patent, as well as the question of priority of invention of what we infer to be essentially the same disclosure in the CTS '285 patent and in Piher's Spanish patent describing the PT-15 trimmer; that priority issue is the subject of an interference proceeding pending in the Patent Office. Specific attacks on the validity of the '285 patent were, however, raised by Piher's counterclaim and decided by the district court. The issues on appeal, therefore, involve the validity of '604 and '285 and infringement of '604. We turn to those issues.

I.

The specifications in the '604 patent describe a variable resistor which is completely enclosed in a tiny boxlike plastic housing containing one round opening through which a plastic driver or shaft projects. That projection of the shaft is in the form of a barrel which includes a flared bearing extending outwardly from the periphery of the opening. The bearing fits against the surface of the housing with sufficient firmness to hold the components of the device securely together and yet be smoothly rotatable; it also performs the function of preventing dust or other foreign matter from entering the component.

Piher argues that the '604 improvement was obvious because (a) with one exception, the general arrangement of its components within a dust excluding housing was disclosed by Barden-'140,[12] and (b) that one exception, namely the flared bearing, was disclosed by appellee's

[10] CTS Corporation has its principal place of business in Elkhart, Indiana.

[11] The '604, '285, and '478 patents identified in notes 1, 2, and 3, and an earlier patent, No. 2,740,027, which has since expired.

[12] Patent No. 3,237,140 on "Variable Resistance Control" issued on Febuary 22, 1966, to CTS as assignee of Barden and Snyder pursuant to application filed on May 20, 1963.

'478 patent. We agree with Piher's premises but not with its conclusion.

In Barden-'140 the sealing function was performed by a thrust washer encircling the driver just inside the opening in the housing. Both the '478 patent and the '604 patent describe unsatisfactory characteristics of such a washer and disclose a construction which substitutes a flared bearing—i.e., an enlargement of a portion of the driver—for the washer. That substitution having been disclosed by '478, Piher argues that the same substitution disclosed in '604 must surely be classified as obvious.

If the flared bearing in '604 merely performed the function of maintaining a secure relationship among the components during adjustment, Piher's argument would be valid. But in '604 the flared bearing is designed to perform the additional dust excluding function, a function not even arguably performed by its antecedent in '478.[13] Indeed, since the '478 device is not enclosed in a housing, that patent does not concern itself with the use of any sealing member, and therefore neither implicitly nor explicity suggests that the enlarged portion of the shaft may be used to perform a sealing function.

Although each of the elements of the '604 combination was disclosed by either Barden-'140 or by the '478 patent, the fact that the flared bearing would successfully perform a sealing function was disclosed by neither. According to expert testimony which the trial judge credited, that fact was not obvious to persons skilled in the art when the invention was made. Since the sealing function of the bearing in the '604 device was of critical importance in the Examiner's decision to allow the claims,[14] and since his

[13] In '478 what we refer to as a "flared bearing" is actually described as an "enlarged portion" of the shaft. (See column 4, lines 34-38; it is element 31c in Figs. 1 and 3.)

[14] Claim 1 of '604, which reads as follows was allowed only after an amendment which added the italicized language:

"1. A variable resistance control comprising a dust excluding housing having a plurality of walls, a *base closing the housing and forming a wall thereof*, an aperture in one of the walls, a driver supported by the housing for rotation relative thereto, resistance means supported within the housing, and a contactor wipingly engaging the resistance means and constrained to rotate with the driver, the driver comprising a body portion and a barrel integral with the body portion, the barrel extending through the aperture

decision is presumptively correct, the nonobviousness of that application of a flared bearing in a variable resistance control justifies the district court's conclusion that the concept was patentable.

II.

As we have already pointed out, the flared bearing in '604 performed both a structural function and a sealing function. If only the former were involved, CTS clearly would have been obligated to call the Patent Examiner's attention to '478. Indeed, in view of the discussion of the structural importance of the flared bearing in '604, we are somewhat surprised and troubled by the failure even to cite '478 during the prosecution of the '604 application. Nevertheless, we accept appellee's argument that since '478 described a component which was not enclosed in a housing, and therefore had no relevance to the function of sealing an opening in a housing, prior art which disclosed the use of comparable closures to seal openings in other enclosed devices was more pertinent than '478.[15]

That conclusion does not necessarily lead to the further conclusion that the failure to cite '478 did not violate the applicant's duty of disclosure. We must assume that the applicant deliberately decided not to call the Examiner's attention to '478, since it was one of its own patents, *cf. Armour & Company* v. *Swift & Company*, 466 F.2d 767, 777-779 (7th Cir. 1972), and we are unwilling to assume that the Examiner was familiar with it, *id.* at 779. Notwithstanding these assumptions, the patentee is correct in emphasizing the improbability that a patent on an unenclosed control would affect the Examiner's evaluation of a means for effectively sealing the opening in a housing during adjustment of the control. We therefore conclude

[14] (Continued)

with a portion of the barrel securing the driver to the housing, said portion of the barrel including a flared bearing extending outwardly from the periphery of the aperture."

The importance of the dust-excluding function is repeatedly emphasized in the specifications. See, e.g., Col. I, lines 17, 44-56, 69-70; Col. II, lines 12-15, 32-35.

[15] CTS cited Patent No. 3,215,303 on "Closure for Openings in the Walls of Electrical Outlet Boxes and the Like" (see especially column 2, lines 59-69) and Patent No. 3,099,057 on "Retaining Fasteners" (see especially column 4, lines 12-19).

that it was a permissible exercise of judgment for CTS to omit the citation of the '478 patent during the processing of the '604 application.

III.

Our reasons for affirming the district court's infringement finding may be briefly stated.

In the device disclosed in the '604 specifications, and in the components actually marketed by CTS, the base of the housing is made of plastic and has the resistance element affixed to it. In contrast, in Piher's PT-15 trimmer, the metal collector also serves as the base of the housing. Unquestionably, if a metal base were used in the CTS device, it would not function. There is, therefore, a rather dramatic difference between the two devices.

The question of infringement, however, is answered by comparing the accused device with the claims of the patent, not with any particular embodiment—even the preferred embodiment—of the invention.[16] The claims in the '604 patent do not require that the base of the housing be a nonconductor. Despite the different arrangement of the elements of the Piher trimmer, each of the elements described in the '604 claims may be found therein. The district court so found, and that finding is supported by the testimony of plaintiff's expert. Most importantly, the arrangement of the base of the housing, the collector, and the resistance element is really not relevant to the question whether the accused device uses a flared bearing on a driver to perform a sealing function. The critical element of the invention is found in Piher's trimmer.

Piher's second attack on the infringement finding was first advanced in its reply brief in this court. Piher points out that the shaft in the PT-15 trimmer protrudes through an opening in the bottom as well as through a second

[16] The phrase "infringement of a patent" is somewhat misleading since it is the claims of the patent which define the boundaries of the patent grant. See Deller's Walker on Patents, 2d Ed., §509, p. 165. Although there are situations in which the scope of the claim may be limited by construing it in the light of the specifications, see *McClain* v. *Ortmayer*, 141 U.S. 419, 424, we see no reason why the portions of the claim describing the use of the flared bearing to seal in aperture in the housing should be limited by a description in the specifications relating to another wall of the housing.

opening in the top of its housing, and that the flared bearing seals only one of the two holes.[17] It would seem to follow that the housing was not designed to exclude dust. In contrast, the '604 device has only one opening in its housing and the '604 claims refer to "*an* aperture in one of the walls" and describe the location of the flared bearing with reference to the periphery of "*the* aperture."

It is not the fact that the Piher device has two holes rather than only one that casts doubt on the infringement finding; for surely if both holes were sealed with flared bearings, there would be infringement. Rather, it is the fact that there appears to be no seal at all over one of the holes that raises the question whether Piher's housing is intended to exclude dust. But this question was unequivocally answered in the trial court when Piher's counsel acknowledged that Piher had made no attempt to prove that the Piher trimmer does not have a dust excluding housing.[18] Thus, we must assume that the second opening is effectively sealed against dust by a noninfringing means—perhaps merely a close adjustment between the driver and the aperture. That assumption, however, does not undermine the sufficiency of the finding that the flared bearing, when it does perform a sealing function, infringes the '604 patent.

We conclude that the record adequately supports the finding of infringement.

IV.

The fourth and fifth issues relate to the validity of the '285 patent. That patent describes a control which differs from the prior art in two important respects. The metal collector serves as the base of the housing, thereby reducing the number of parts,[19] and the contactor is pinched

[17] Actually, in the trial court Piher's theory of noninfringement appears to have been that its flared bearing did not even seal one of the holes. The district court rejected that theory and we do not understand appellants to pursue it on appeal.

[18] See Tr. 2346-2347. This position in the trial court was apparently compelled by a representation made by Piher to the Tariff Commission with respect to the dust excluding character of its product.

[19] "Another object of the present invention is to provide a variable resistance control utilizing a minimum number of parts by using the collector as a cover for the housing." Col. 1, lines 73-75; column 2, line 1.

between the collector and the resistance element which are in parallel planes, thereby maintaining a more constant pressure between those two elements than when the spring-like contactor is employed between the two elements arranged concentrically in the same plane.[20] Both of these functions are also found in Piher's PT-15 trimmer.[21] As already noted, there is an interference proceeding pending in the Patent Office to decide the question of priority of invention.

CTS may have been the first to experiment with the '285 construction, but Piher appears to have been the first to exploit it commercially.

In 1967, CTS commenced a "low cost 450" project which eventually resulted in the '285 patent. After rudimentary testing of the handmade model, detailed drawings of the device shown in the '285 patent were prepared, about $20,000 was invested in the acquisition of temporary pro-

[20] "Yet another object of the present invention is to provide a variable resistance control with the contactor pinched between the resistance element and the collector to thereby maintain equalized contact pressures on the resistance element and collector." Column 2, lines 13-17.

Both of the features mentioned in the text are identified in claim 1 of the '285 patent which reads as follows:

"1. A variable resistance control comprising a housing defined by a skirt and an end wall integral with said skirt, a resistance element lying in a plane and supported flatwise against the end wall of said housing, a collector supported by said skirt and having a diameter slightly larger than the diameter of the resistance element and closing one end of the housing, said collector being provided with an aperture, said collector being substantially flatwise and lying in a plane in spaced parallel relationship to said plane containing said resistance element, a contactor rotatable about an axis and positioned between said resistance element and said collector, and driver means for rotating said contactor whereby upon rotation of said driver means said contractor wipingly engages said resistance element and said collector, said collector rotatably supporting said driver means in said aperture."

[21] These features were plainly identified in the testimony and exhibits presented by plaintiff's expert witness in support of the claim that the PT-15 trimmer infringed the '604 patent. Of course, as CTS argues, the fact that the trimmer which Piher was marketing at the time the litigation was commenced contained the same features as those discussed by the '285 patent does not necessarily prove that earlier models of the trimmer contained the same features. However, an examination of the Piher patent application filed in the United States on July 28, 1969, claiming the benefit of filing dates of July 30, 1968, and May 13, 1968, for corresponding Spanish patents, together with testimony in the record, strongly indicates that these essential features were embodied in Piher's device from its inception.

duction tools, and a number of prototypes were assembled. These samples were tested in May of 1968. Although a defect was found in the samples, CTS determined that the defect was easily correctable and that the samples were commercially satisfactory. There is also testimony that other samples tested in January of 1969 were found to be fully operable. On the basis of that evidence, the district court found that the invention had been reduced to practice in May, 1968, and again in January, 1969. The '285 patent application was filed on March 16, 1970, and the patent issued in 1972. CTS has not yet marketed its "low cost 450" control, but one of its witnesses testified that it plans to do so in the future.

Piher filed a Spanish application on its PT-15 trimmer in July of 1968. In the fall of that year, the witness Adams, who was the manager of International Materials for Motorola, visited Piher's facilities in Barcelona and was shown prototypes of the new trimmer. Toward the end of the year he received samples from Piher and placed an order for a production trial run in January of 1969. A portion of that order was shipped from Barcelona on March 3, 1969, and was delivered to Motorola in April.

Piher's principal attack on the validity of the '285 patent is based on evidence relating to this shipment which left Barcelona more than a year before the date of the application for the patent but did not arrive in the United States until after the critical date. Some of this evidence was admitted and some is in the record as part of Piher's several offers of proof which the trial judge rejected. Before discussing the specifics of that evidence it is important to identify the material issues.

The challenge rests on § 102(b) which defines the so-called "on sale" defense. The statute speaks in terms of "the invention" being on sale in the United States more than one year prior to the application date.[22] It might more

[22] The text of § 102(b) reads as follows:

"§ 102.

"A person shall be entitled to a patent unless—

* * *

"(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or. . . ."

precisely have referred to a device embodying or disclosing the invention. In any event, the defense is most frequently asserted on the basis of evidence that the patentee's own product was on sale more than a year before the patent application was filed.[23] The statutory purpose in such cases is to make sure that the inventor may not extend the period of patent protection for the commercial exploitation of his monopoly beyond the statutory term.[24]

But the defense may also be predicated on evidence that the invention was disclosed in a product sold by someone other than the patentee more than a year before the filing date. *Dunlop Holdings, Ltd.* v. *Ram Golf Corp.*, ... F.2d ....., No. 74-2024 (7th Cir., Oct. 20, 1975). In such cases, the statutory purpose is to preclude the award of a patent to a person who is not actually the inventor; proof that a product was on sale in the United States more than a year before the application date conclusively places that product in the category of prior art of which the inventor is presumed to have had knowledge. See Judge Duffy's opinion in *Illinois Tool Works, Inc.* v. *Solo Cup Co., Inc.*, 461 F.2d 265, 270-271 (7th Cir. 1972). The "on sale" defense in this case[25] in effect raises the question whether Piher's PT-15 trimmer must be regarded as prior art because it was on sale before the critical date of March 16, 1969.

We first put to one side an argument that CTS repeatedly asserted in the district court and which may have provided an erroneous predicate for some of the trial judge's evidentiary rulings. CTS contended that Piher was required to prove a completed sale in the United

[23] *See, e.g., Amphenol Corp.* v. *General Time Corp.*, 397 F.2d 431 (7th Cir. 1968); *Frantz Mfg. Co.* v. *Phenix Mfg. Co.*, 457 F.2d 314 (7th Cir. 1972); *Dart Industries, Inc.* v. *E. I. DuPont De Nemours and Co.*, 489 F.2d 1359 (7th Cir. 1973); *The Red Cross Mfg. Corp.* v. *Toro Sales Co.*, ... F.2d ....., No. 73-1900 (7th Cir., November 12, 1975).

[24] "The policy underlying the 'on sale' bar is to prevent an inventor from holding back the secrets of his invention from general public knowledge while at the same time exploiting it commercially, thereby extending the duration of his legal monopoly." *The Red Cross Mfg. Corp.* v. *Toro Sales Co.*, *supra*, slip op. at 6.
See, also, Frantz Mfg. Co. v. *Phenix Mfg. Co.*, *supra*, 457 F.2d at 320.

[25] Since the "on sale" issue was raised by Piher's counterclaim, it is not actually a "defense" in this case; however, since the issue is normally raised by the defendant, it seems appropriate to follow the practice of referring to it as a defense.

States prior to the critical date. Admittedly, Piher proved no such sale. But if it was then offering to prospective purchasers in the United States a product which (a) embodied the '285 invention and (b) was complete in the sense that it represented a reduction of the invention to practice, the invention was on sale within the meaning of the statute and the '285 patent is invalid.[26]

There is substantial evidence in the record supporting the conclusion that Piher's PT-15 trimmer disclosed the essential elements claimed in the '285 patent. Piher's trimmer was described in detail by the CTS expert who explained why it infringed the '604 patent; his testimony and the exhibits he prepared clearly disclosed the use of a metal collector as a base for the housing, and also the contactor pinched between the collector and the resistance element in separate parallel planes. Moreover, in its original complaint, CTS alleged that the PT-15 trimmer infringed the '285 patent.

CTS points out, however, that the fact that the invention was disclosed in Piher's trimmer in 1972 when the suit was filed does not necessarily establish the fact that it was embodied in any device which was on sale prior to March 16, 1969. For there is evidence in the record that the trimmer has been modified from time to time, and Piher had the burden of proving that it reduced the concept to practice before the critical date. *See Dart Industries, Inc.* v. *E. I. DuPont De Nemours and Co.*, 489 F.2d 1359, 1364 (7th Cir. 1973). Thus, the character of the devices shipped by Piher on March 3, 1969, was of critical importance.

Adams testified that after those devices were delivered to Motorola in April of 1969, they were turned over to Gunar Klass for evaluation. Klass testified that he conducted a series of tests in April, May and June of 1969. CTS seems to have persuaded the trial judge that evidence regarding these tests was irrelevant because the product did not arrive in the United States until after the critical date.[27] CTS convinced the trial judge that a copy of the

[26] See cases cited in n. 23, *supra*.

[27] "MR. WYSS: I object to the so-called offer of proof for a number of reasons. First of all, this device, according to the witness' own testimony, was — if it was — received by him on

Motorola purchase order issued on January 22, 1969, relating to the March shipment was inadmissible because it did not constitute "the best evidence" of what Motorola had ordered, and its relevance was not manifest from the face of the document. CTS also persuaded the court to exclude testimony by Klass, who had been responsible for Motorola's testing of the Piher device, in which Klass described the essential features of that device.[28] The court also sustained objections to the admissibility of one of the devices which the witness identified as having been tested in 1969 on the ground that it had not been in the personal custody of the witness for about a year, but rather had been in the custody of Motorola's patent department, and there was no absolute assurance that the offered exhibit was the one he had tested. The arguments over the admissibility of these exhibits and this testimony were extensive and we are not entirely sure that we understand the basis for the various restrictive rulings made by the trial judge. We have no doubt, however, that the purchase order was relevant and that the fact that it was a carbon rather than

[27] (Continued)

or about April 11, 1969, so it is much too late for anything in connection with this lawsuit and is therefore, under the provisions of Rule 43(E) not admissible on any ground.

MR. ROHRBACK: (C).

• • •

THE COURT: I sustain the objection of the plaintiff to the offer of proof made by the defendant in connection with the offer of Defendant's Exhibit 48 for identification." (Tr. 1602-1603).

[28] During the offer of proof, the witness disassembled the exhibit while he was on the witness stand and identified the collector as a part of the base and the contactor's location pinched between the resistance element and the collector. The testimony was in part:

"Q Would you tell us what is inside Defendant's Exhibit 48 for identification?

A Inside we see the contactor, which is mounted on the plastic rotor. I will remove that, together with the rotor, and we also see the resistive element with the two terminals attached to them internally.

Q Where is the resistance element?

A The resistance element is mounted within the plastic body, cavity and is retained by a terminal on both sides.

Q Where was the contactor with respect to the resistive element and the collector when you opened up?

A The contactor is —

Q Defendant's Exhibit 48 for identification.

A The contactor is positioned on top of the rotor and is between the resistance element and the collector." (Tr. 1601-1602)

a ribbon copy did not justify its exclusion.[29] Moreover, the lengthy testimony of the witness Klass, which we have studied with care, contains sufficient assurance that the offered exhibit was one of the devices ordered in January and received in April to have justified its admissibility.[30]

[29] The misnamed "best evidence" rule is found in Rules 1002, 1003, and 1004 of the new Federal Rules of Evidence. Since the excluded copy of the purchase order was a duplicate, its admissibility was covered by Rule 1003, which provides:

"A duplicate is admissible to the same extent as an original unless (1) a genuine question is raised as to the authenticity of the original or (2) in the circumstances it would be unfair to admit the duplicate in lieu of the original."

A "duplicate" is defined in Rule 1001(a)(4) as:

". . . a counterpart produced by the same impression as the original, or from the same matrix, or by means of photography, including enlargements and miniatures, or by mechanical or electronic re-recording, or by chemical reproduction, or by other equivalent techniques which accurately reproduces the original."

We find no basis in the record for questioning the authenticity of the purchase order. At the time the purchase order was offered, a Motorola employee, Adams, was on the stand and in the offer of proof testified that the order was made by a Mr. Pinter under Adams' direction. Adams also testified as to when the order arrived, what devices were ordered (Motorola part numbers appear on the order rather than Piher numbers), and when he had first seen the Piher devices which are the subject of the order. Although there is no direct testimony describing the document as a "carbon copy," in the absence of any evidence to the contrary, we draw this inference from the copy of the document which was offered for examination in light of the testimony of the witnesses from Motorola. CTS, however, on remand, retains the right to question the document's authenticity.

[30] "By Mr. Jones:

Q Mr. Klass, I hand you Defendant's Exhibit 48 and ask you to describe it from its visual appearance from the exterior.

A It is a PT type — PT-15 Piher molded housing potentiometer, has our production part number on it, has our test lab number 4 test tag on it, has a molded-in Piher Spain name on it.

Q Can you tell us what parts are visible from the exterior?

A The parts visible from the exterior is the molded plastic body, the collector, which is sealed with the body, has a plastic rotor and has two terminals.

Q Is there any doubt in your mind, Mr. Klass, as to whether or not that is the same number 4-PT trimmer that was tested in or about April of 1969 and reported on in Defendant's Exhibit 47 for identification?

A That is my testimony. That is the device I removed from my —

THE COURT: Did you hear the question?

THE WITNESS: Please read it.

(Question read.)

A There is no doubt in my mind." (Tr. 1598-1599)

For discussion of identification and chain of custody of "Real" evidence in civil cases see Admission of Demonstrative Evidence, 61 Nw ULR 472, 478-479 (1966).

As CTS argues, the record does not entirely foreclose the remote possibility that this particular device was mislabeled, or confused with another device when it was in the custody of Motorola's patent department; such a possibility affects the probative value of the exhibit, but in view of the positive character of the witness's testimony that it was one of the devices which had been tested in 1969, and that it was one that had been received pursuant to the January order, it should have been admitted. Surely, in a case tried to the court without a jury, discretion in such evidentiary rulings should be exercised in favor of admissibility, particularly when the record is more apt to be encumbered by extensive argument over issues of admissibility than by the evidence itself.[31]

If the physical exhibit identified by Klass had been admitted, and if the trial court had accepted his oral testimony presented in an offer of proof, the evidence would have been sufficient to support findings of fact establishing Piher's "on sale" defense. For that evidence tended to prove that the device which Motorola received in the United States in April of 1969 disclosed the '285 invention. Moreover, Klass' testimony about the tests performed under his direction, together with evidence that these devices were shipped from Barcelona on March 3, 1969, was sufficient to justify the inference that the Piher control had been reduced to practice prior to the critical date.[32] Thus, the erroneous evidentiary rulings prevented Piher from presenting a possibly meritorious defense.[33]

[31] *See generally Brubeck v. Pennsylvania R. Co.*, 346 F.2d 238, 241 (7th Cir. 1965); *Reid v. Quebec Paper Sales & Transp. Co.*, 340 F.2d 34 (2d Cir. 1965); *New York Life Ins. Co. v. Harrington*, 299 F.2d 803, 806 (9th Cir. 1962); McCormick, Evidence, 1954, § 60; see also Davis, Hearsay in Nonjury Cases, 1970, 83 Harv. L. Rev. 1362.

[32] We have not found it necessary to decide whether error was committed in the exclusion of the reports written in Spanish by the former president of Piher describing his sales activities in the United States during early 1969. Our disposition of the case will enable Piher to make a fresh offer of this evidence and the trial judge who will hear the new trial to make a fresh appraisal of these evidentiary rulings which appear to have been unnecessarily restrictive in a case tried by the court without a jury.

[33] Although a substantial portion of the cross-examination of Klass was directed to demonstrating that most of the tests were not completed until May or June, instead of during the month of April, as he testified on direct examination, the timing of those tests is really of no relevance if it is assumed that Piher's evidence was adequate to sustain a finding that the devices being tested had left Piher's factory in a completed form prior to the critical date.

Piher argues that we should therefore hold the '285 patent invalid. Such a holding, however, would require us to make the requisite findings of fact in the first instance and to conclude that Piher has met its burden with clear and convincing evidence. As we have indicated, if the proffered testimony is credited, it appears that Piher will prevail. But the question of credibility and the interpretation of the exhibits are matters that must be decided in the first instance by a trial judge. We therefore remand for a new trial of all issues raised by Piher's on sale challenge to the validity of the '285 patent.

V.

As already noted, CTS has never marketed its "low cost 450" control commercially. Moreover, there were defects, albeit correctable, in the prototypes which CTS tested. Piher therefore argues that the invention was not useful, that the best mode of carrying it out was not described in the '285 patent specifications, and that the invention was abandoned. The trial judge rejected each of these contentions and we cannot say that his findings are clearly erroneous.

The fact that there was a defect in the prototypes surely does not demonstrate that the *invention* was not useful. Indeed, since the basic features of the invention appear to be embodied in Piher's PT-15 trimmer—as may fairly be inferred from Piher's on sale defense and CTS' original charge that the PT-15 infringes the '285 patent—and since Piher's trimmer is evidently a commercial success, it seems logical to infer that the subject matter of the invention is useful within the meaning of § 102.

Similarly, even if the CTS prototypes are not the best possible embodiment of the invention, we find nothing in the record to support the argument that the inventors contemplated a better mode than that disclosed in the specifications. Section 112 merely requires that the patent disclose "the best mode contemplated by the inventor of carrying out his invention."

Finally, the fact that CTS promptly filed its patent application forecloses the contention that the invention was abandoned within the meaning of § 102(c). There are,

of course, cases in which the character of the commercial exploitation of an invention will be relevant to the issue of abandonment, *cf. Dunlop Holdings, Ltd.* v. *Ram Golf Corp.*, ... F.2d ....., No. 74-2024 at 6 (7th Cir., Oct. 20, 1975), but if the application is promptly filed and diligently prosecuted, the decision to postpone commercial development does not constitute abandonment.

VI.

The district court refused to award costs to CTS, even though it prevailed on all issues decided by the district court. CTS has therefore filed a cross appeal, relying heavily on our recent decision in *Popiel Bros., Inc.* v. *Schick Electric, Inc.*, 516 F.2d 772 (1975). In view of our remand for a new trial of the on sale defense, we believe that the question of what costs, if any, CTS should recover, can await the conclusion of the proceedings in the trial court.

The judgment of the district court is affirmed in part and reversed in part.

A true Copy:

Teste:

.....

Clerk of the United States Court of Appeals for the Seventh Circuit

APPENDIX E

District Court, N. D. Illinois, E. Div.

CTS CORPORATION v. PIHER INTERNATIONAL CORPORATION et al.

72 C 1891 Decided Sept. 25, 1974;
as amended Jan. 8, 1975

PATENTS

1. Infringement Tests of — Comparison with claim (§39.803)

General rule is that infringement is made out if accused device falls clearly within claim.

2. Infringement — In general (§39.01)

Even though United States customer placed order with foreign manufacturer before patent issued, infringement exists where infringing devices were delivered to customer in United States afte: issuance of patent; fact that customer later returned most, if not all, of such devices and was reimbursed by manufacturer does not change conclu sion that manufacturer infringed patent.

3. Infringement — Identity of function or operation (§39.50)

Devices are same in eyes of patent law if accused and patented devices achieve substantially same result in substantially same way.

4. Infringement — Divided and integral parts (§39.40)

Infringement is not avoided by combining functions into one part where separate parts in patented device perform such functions.

5. Pleading and practice in courts — Burden of proof — Validity (§53.138)

Alleged infringers have burden to overcome statutory presumption of patent validity by clear and convincing evidence.

6. Patentability — Utility (§51.75)

For patent to be useful under 35 U.S.C. 101, it need not be perfect for commercial use; alleged infringer has heavy burden to establish lack of utility.

7. Specification — Sufficiency of disclosure (§62.7)

Failure of some sample devices, without more, is inadequate to permit court to find specification defective under 35 U.S.C. 112.

8. Use and sale — Character of evidence to prove (§69.3)
Use and sale — (§69.8)

Standard required for proof that invention was in public use or on sale, under 35 U.S.C. 102(b), prior to application is clear and convincing evidence; while a consummated sale is unnecessary, and placing on sale only is required, device must have existed as a finished article for sale, on hand ready for delivery; even assuming offers for sale, part of a device is insufficient predicate for a finding of on sale; moreover, device must have been on sale in United States.

9. Abandonment — In general (§10.1)

Inventor abandons invention when he dedicates it to public; failure commercially to exploit invention does not establish abandonment; delay in filing application after reduction to practice (not more than two years in instant case) does not constitute abandonment.

Particular patents — Electrical Control

2,740,027, Budd, Stackhouse, and Slough, Radio and Television Receiver Component Adapted Especially for Use with Printed Wiring, claim 5 valid and infringed.

3,375,478, Van Benthuysen and Barden, Electrical Control and Method of Making the Same, claims 1 to 3, 7, 8, and 10 infringed.

3,518,604, Beaver and Van Benthuysen, Electrical Component, claims 1, 5, 7, 8, and 10 valid and infringed.

3,670,285, English, Variable Resistance Control with End Collector, valid.

Action by CTS Corporation against Piher International Corporation and Piher Sociedad Anonima for patent infringement in which defendants counterclaim for declaratory judgment of patent invalidity and non-infringement. Judgment for plaintiff.

See also 178 USPQ 64.

WALTHER E. WYSS, ROBERT L. ROHRBACK, JOSEPH KRIEGER, and MASON, KOLEHMAINEN, RATHBURN & WYSS, all of Chicago, Ill., and JOHN J. GAYDOS, Elkhart, Ind., for plaintiff.

ROBERT B. JONES, RAIFORD A. BLACKSTONE, JR., and FITCH, EVEN, TABIN & LUEDEKA, all of Chicago, Ill., for defendants.

HOFFMAN, Senior District Judge.

This is an action for patent infringement with counterclaims of invalidity and non-infringement. Original jurisdiction of patent cases is conferred on the District Courts by 28 U.S.C. § 1338(a). Venue is properly laid in this district under 28 U.S.C. § 1400(b). The plaintiff, CTS Corporation, is an Indiana corporation with its principal place of business at Elkhart, Indiana. Defendant, Piher International Corporation (PIC or Piher), an Illinois corporation, has a regular and established place of business in Park Ridge, Illinois. The second named defendant, Piher Sociedad Anonima, (PSA) is a Spanish corporation.

Originally, plaintiff alleged infringement of four United States Letters Patent, 2,740,027 ('027), 3,375,478 ('478), 3,518,604 ('604) and 3,670,285 ('285). After answer, stipulation, trial and amended complaint and answer, respectively, infringement of the '027, '478, and '604 patents remained at issue, together with counterclaims denying validity and infringement of the '027 and '604 patents, infringement of the '478 patent, and validity of the '285 patent. Additionally, to permit joinder of PSA as a party defendant, plaintiff alleged that Piher was the "alter ego" of the Spanish corporation, PSA. The prayer is for an accounting for damages, including costs and attorneys' fees, and injunctive relief.

I. Piher Sociedad Anonima (PSA)

Plaintiff alleges that PSA is the "alter ego" of Piher and therefore properly joined as a defendant. Facts relating to this issue must be viewed in their entirety, and if the appearance of PIC's autonomy is merely superficial, PSA is properly before this court. Frazier v. Alabama Motor Club, Inc., 349 F.2d 456 (5th Cir. 1965). See also S.O.S. v. Bolta, 117 F.Supp. 59, 100 USPQ 261 (N.D. Ill. 1953). The network of interrelationships between Piher and its Spanish parent is ample foundation for the conclusion that Piher was autonomous in form only. The facts show joint ownership, interlocking officers and directors, employee confusion as to the source of compensation, and customer treatment of the corporations as identical.

The wholly-owned subsidiary of PSA, Piher, was organized, by its parent, as an Illinois corporation on July 11, 1968 to serve as a marketing organization in the United States. Sales by Piher were restricted to PSA products. PSA designated Piher's office as its own on invoices and business correspondence. Two brothers, Juan Luis Heredero and Jose Antonio Heredero, own the substantial portion of both corporations. One brother is a director of PSA and an officer of Piher, while the other has been PSA's chairman of the board at the same time he was vice-president of Piher.

Other personnel serve in interrelated capacities. Piher's president, Garcia Nictro, is PSA's export manager, as was his predecessor Ricardo Balil. During their respective terms as president of Piher, Nictro and Balil resided in Spain. The managing director of Piher served as the PSA managing director for the United States. Customers apparently dealt with officers of Piher not in their capacity as officers of Piher, but as representatives of PSA. Piher employees were unsure whether their compensation came from Piher or PSA. The evidence shows that one company sometimes paid obligations of the other. For example, PSA paid the expenses of Balil to travel to the United States to testify on deposition in this suit. Viewing these facts in their entirety, the court must find that Piher and its parent are, for jurisdictional purposes in this action, the same.

II. Patent No. 3,375,478 ('478)

United States Letters Patent No. 3,375,478 issued in the names of John Van Benthuysen and Wayne A. Barden on March 26, 1968. Plaintiff holds all rights in this patent for variable resistor controls. Because of the small size of these devices, the plaintiff marked the numbers of the '478 patent either on containers for the resistors or on inserts placed in the containers.

[1] 28 U.S.C. § 271 defines an infringer as anyone who, without authority, makes, uses or sells any patented invention within the United States during the term of the patent. The "claims measure the invention." Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U.S. 405 (1908). The general rule is that if the accused device falls clearly within the claim, infringement is made out. 7 Deller's Walker on Patents §511. Graver Tank Co. v. Linde Air Products Co., 339 U.S. 605, 85 USPQ 328 (1950). The plaintiff contends that the accused PAB 15 devices sold by defendants in the United States infringe claims 1, 3, 4, 7, 8, and 10 of the '478 patent.

Defendants' Model PAB 15 reproduces almost exactly two of plaintiff's CTS Model 201 Series controls. Plaintiff's expert demonstrated that the elements of claims 1, 2, 3, 7, 8, and 10 of the '478 patent correspond in term and substance to the elements of each of the several forms of defendants' Model PAB 15 controls. Each element of the two forms of defendants' Model PAB 15 performs the same function in the same manner as the corresponding element in each of claims 1, 2, 3, 7, 8, and 10 of the '478 patent.

While defendants did not refute this testimony establishing the similarity between plaintiff's claims and the elements of defendants' PAB 15 controls, they did argue that no infringing act occurred in the United States after the '478 patent was issued on March 18, 1968.

Prior to the issue of the patent, PSA obtained from Motorola Corporation samples of plaintiff's Model 201 Series variable resistors. From these samples, it produced the PAB 15 controls. Defendants sold approximately 200,-

000 of the PAB 15's to Motorola Corporation, who placed its last order with PSA March 8, 1968, ten days before the patent issued.

[2] The majority were then delivered to Motorola, in the United States, in or after mid-April of 1968, after defendant had been notified of the '478 patent and their infringement thereof. Sales activities continued in the United States until the summer of 1969. Motorola subsequently returned most, if not all, of the devices and was reimbursed by a check drawn by Piher. Although the actual damages may therefore be slight, the court finds that plaintiff has proved infringement under 35 U.S.C. § 271.

III. Patent No. 2,740,027 ('027)

CTS holds all rights in United States Letters Patent No. 2,740,027 ('027) issued in the names of Wilbert H. Budd, Robert A. Stackhouse and Herbert L. Slough on March 27, 1956. The patent has three basic components: a variable resistor control, trimmer potentiometer, and metal encased coil. It allows temporary mounting of the components in proper position until they are permanently soldered into a circuit panel.

Plaintiff marked the numbers of the '027 patent either on containers or on inserts included with the devices.

Plaintiff alleges that defendants' PT 15 devices infringe claim 5 of the '027 patent. The questions presented are the infringement of claim 5 and the validity of the '027 patent, the validity issue having been raised via counterclaim for declaratory relief.

A. Infringement

[3] As noted earlier, if the accused device falls clearly within the claim, infringement is made out. Graver Tank Co. v. Linde Air Products Co., 339 U.S. 605, 85 USPQ 328 (1950). When the accused device achieves substantially the same result in substantially the same way as the patented device, the devices are the same in the eyes of patent law. King-Seeley Thermos Co. v. Tastee Freeze Industries, Inc., 357 F.2d 875, 880, 149 USPQ 4, 7-8 (7th Cir. 1966) Graver, supra, 339 U.S. at 608, 609, 85 USPQ

at 330-331. Plaintiff's expert testified that all elements of claim 5[1] of the '027 patent read in term and substance upon corresponding elements of defendants PT 15 LB. As will become apparent, corresponding elements perform the same function(s) in the same way.

The unique contribution of '027 is an improved structure for mounting components on a printed circuit board or panel. It permits temporary mounting, in proper position, until the control can be permanently soldered. The mounting structure on defendants' Model PT 15 LB control achieves the same results with essentially the same structure. As in '027, the control shaft on Model PT 15 LB is adapted for positioning with its axis paralled to a printed circuit panel. Also, the Model PT 15 LB has "supporting means" with panel engaging abutments for accurately positioning the control and limiting the penetration of the terminals. It has "snap-in" fingers to provide detent like engagement with the panel.

In the patented structure, the snap-in fingers, formed on the supporting means, also serve as terminals providing

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[1] Subclassified according to its elements, claim 5 reads:

"In a circuit component for radio and television sets having a rotatable control shaft:

[1] supporting means for the component fixed with respect thereto and having panel engaging abutments with surfaces thereon lying in a common plane spaced from the control shaft but parallel to its axis, said abutments being adapted to seat upon a panel and thereby position the control shaft of the component at a definite distance from the panel;

[2] terminals for the component projecting therefrom substantially perpendicular to and beyond said plane of the panel engaging surfaces of said abutments whereby said terminals are adapted to enter holes in a panel upon which the abutments seat; and

[3] snap-in fingers on the supporting means projecting therefrom beyond the plane of the panel engaging surfaces of the abutments to have detent like engagement in holes in a panel upon which the abutments seat, and thereby coact with said abutments to hold the component on the panel with its control shaft and terminals properly positioned with respect to the panel."

connection to the ground conductor portion of the printed circuit panel. In the Model PT 15 LB, the snap-in fingers are formed on the ends of the terminals, one of which is normally a ground terminal joined to a ground conductor on the printed circuit panel. The difference between the devices is that on defendants' PT 15 LB the snap-in fingers are formed directly on each terminal of the variable resistor control, whereas in the patented structure, the snap-in fingers are formed on the supporting means. Defendants' device combines the snap-in fingers and terminals, eliminating the deed for the supporting legs found on plaintiff's device. This difference is not legally significant. The accused device achieves substantially the same result in substantially the same way as the patented device. King-Seeley Thermos Co.,

[4] supra. More narrowly put, infringement is not avoided by combining functions into one part where separate parts in the patented device performed the functions now combined. Zysset v. Popeil Brothers, Inc., 276 F.2d 354, 125 USPQ 152 (7th Cir. 1960). Even acknowledging the difference, claim 5 reads in term and substance upon defendants' structure. For example, the snap-in fingers on defendants' PT 15 LB controls provide detent like engagement with the panel, thereby positioning the control on the panel until permanent soldering is complete. Defendants sold the accused device in the United States after issuance of the patent and notification of infringement. The court finds, therefore, that plaintiff has proved infringement of claim 5 of '027.

B. Validity

[5] Defendants nevertheless claim that '027 is invalid under 35 U.S.C. § 103. The burden rests on them to overcome, by clear and convincing evidence, the statutory presumption of validity. 35 U.S.C. § 282; Mumm v. Decker & Sons, 301 U.S. 168, 171, 33 USPQ 247, 248-249 (1937); Ortman v. Maass, 391 F.2d 677, 681, 157 USPQ 1, 4-5 (7th Cir. 1968). A patent is valid if the differences between the prior art and the claimed subject matter are

such that the subject matter as a whole would not have been obvious to a person having ordinary skill in the art to which the subject matter pertains at the time when the invention was made. 35 U.S.C. § 103, Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 466-467 (1966).

To support its counterclaim for declaratory judgment of invalidity under § 103, defendant offered testimony of a patent lawyer, four reference patents and the prior art listed by the Patent Office. This evidence does not sustain the heavy burden of proof imposed on the defendants by 35 U.S.C. § 282.

First, the conclusion of defendants' witness, a patent lawyer, that '027 was obvious in light of the prior art is entitled to no weight. Disqualified at the trial, the witness lacked qualifications as an expert on electronics components, his technical education being limited to one or two basic mathematics and drafting courses. Moreover, defendants did not comply with Rule 26(e)(1)(b), Federal Rules of Civil Procedure, requesting them to supply the substance and subject matter of this witness' testimony in response to plaintiff's interrogatories. Even if admitted, the offer would have substantive defects. For example, the witness' conclusion made no reference to the subject matter as a whole, obviousness to a person of ordinary skill in the art, and the time of invention, all important elements of 35 U.S.C. § 103, the basis of the counterclaim. In 1968, the Court of Appeals for the Seventh Circuit noted its reluctance to rely on "• • • the sole testimony in this regard • • • provided by a patent lawyer who admittedly was not an expert • • •." National Dairy Products Corporation v. Borden Company, 394 F.2d 887, 890, 157 USPQ 227, 229-230 (7th Cir. 1968).

It was, on the other hand, the opinion of plaintiff's expert that the subject matter claimed in '027 patent would not have been obvious to a person of ordinary skill in the art at the time when the respective inventions were made. See Thexton Manufacturing Company v. Soland, 39 USPQ 104, 107 (Minn. 1938).

Three of the four reference patents cited by defendant were not admitted.[2] The one reference admitted, O'Callaghan, United States Letters Patent No. 2,169,708 relates to a structure for mounting a coil shield upon a metal chassis, not an insulating board generally used with printed circuits. Plaintiff's expert testified that the "shoulders" on O'Callaghan, which perform the detent like holding function, are "radically different" from the abutments on '027. Moreover, O'Callaghan is not directed to accurate temporary positioning of the control shaft. It does not show abutments on supporting means the purpose of which is to engage the panel to enable positioning of the control shaft.

No evidence shows that the prior art patents listed by the Patent Office anticipated claim 5 of '027. Each fails to show several elements of claim 5.[3]

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[2] Lazzery et al., United States No. 2,742,627; Del Camp United States No. 2,790,961; Hathorn United States No. 2,754,486.

The ground for the objection was that each of the patents was issued after '027 was filed. Additionally, no foundation was laid. Plaintiff's counsel offered to withdraw the objection if, prior to filing post trial memoranda, defendants' counsel could offer assurance that the applications for the patents were not substantantially changed during their prosecution. Counsel for plaintiff has indicated no such assurance has been received.

Moreover, none of these rejected patents relates to variable resistor controls, and none is directed to accurate temporary positioning of the control shaft. None shows abutments on supporting means the purpose of which is to engage the panel to enable positioning of the control shaft. None shows an electronic circuit component having a rotatable control shaft. None of the references shows certain elements of claim 5 (see footnote 3, infra).

[3] The elements are (1) "panel engaging abutments with surfaces thereon lying in a common plane spaced from the control shaft but parallel to its axis, said abutments being adapted to seat upon a panel and thereby position the control shaft of the component a definite distance from the panel." (2) terminals projecting "substantially perpendicular to and beyond said plane

(footnote continued on following page)

IV. Patent No. 3,518,604 ('604)

A. Infringement

United States Letters Patent No. 3,618,604 issued in the names of Thomas R. Beaver and John D. Van Benthuysen on June 30, 1970 for "Electrical Component" on an application filed February 12, 1968. CTS holds all rights in the '604 patent. Plaintiff marked the '604 patent number on either containers or inserts. The plaintiff alleges infringement of '604 under 35 U.S.C. § 271. The question presented is thus whether defendants' PT 15 device embodies the '604 patent and whether it was "made, used or sold" in the United States. Additionally, defendants counterclaim for declaratory judgment of invalidity.

The PT 15 LB was sold by the defendant in the United States after June 30, 1970, the date the '604 patent issued. The invention represented by '604 achieved an efficient, relatively inexpensive variable resistor control. Essentially, the invention is comprised of a housing with closure member forming the housing wall. An aperture extends through one wall on the housing to accommodate a barrel portion of the driver. CTS markets the '604 invention as its Model 360 Series Control.

Every element in Claims 1, 5, 7, 8, and 10 of the '604 patent reads upon a corresponding element of defendant's Model UT 15 LB control. Graver Tank v. Linde Air Products Company, supra. The elements in the PT 15 LB achieved the same results as corresponding elements in the '604 invention. See King-Seeley Thermos Company v. Tastee-Freeze Industries, Incorporated, supra. the PT con-

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of the panel engaging surfaces of said abutments whereby said terminals are adapted to enter holes in a panel on which the abutments seat." and (3) snapping fingers projecting "beyond the plane of the panel engaging surfaces of the abutments to have detent like engagement in holes in a panel upon which the abutments seat, and thereby coact with said abutments to hold the component on the panel with its control shaft and terminals properly positioned with respect to the panel."

trols include, for example, a housing on one end which is a metal closure forming a wall of the housing. Also an aperture for accommodating the barrel position of the driver appears in the end of the closure member. The barrel portion protruding beyond the aperture is flared outward, forming, together with the housing, a seal against dust. The driver is composed of heat deformable material.

The defendant offered, to rebut plaintiff's claim of infringement as to '604, the testimony of the patent lawyer, Mr. Lucas. As noted above, the Court disqualified Mr. Lucas because of insufficient qualifications as an expert on electronic components. See National Dairy Products Corporation v. Borden & Company, supra. Even if received, the testimony of Mr. Lucas would not have been persuasive as to infringement of '604. During an offer of proof, Lucas stated that it was his opinion that the claims of the '604 patent are not infringed by an electrical component with a shaft secured in one wall of the housing by a flange formed from the shaft, if the flange abuts at right angles from the axis of the shaft. Regardless of whether the flange is perpendicular to the axis or tapered at less than 90 degrees, it performs the same function in the same way.

B. Validity

Defendants seek declaratory judgment of invalidity as to the '604 patent, alleging that the patent fails to comply with 35 U.S.C. § 103. It bears repeating that defendants must show that the differences between the prior art and the claimed subject matter are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art at the time the invention was made. 35 U.S.C. § 103. Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 466-467 (1966). Defendants have not met their heavy burden of proof. 35 U.S.C. § 282; Mumm v. Decker & Sons, supra. Ortman v. Maass, supra.

Plaintiff's expert testified unequivocally that the subject matter would not have been obvious to a person of ordinary skill in the art at the time the invention was made. In contrast, defendants, through offer of proof, offered the testimony of the patent lawyer disqualified by the court for reasons noted earlier.[4]

Although defendants attempted to show that another form of plaintiff's Model 201 Series controls using a hollow shaft with a deformed end portion was prior art to the '604 patent, they failed to establish, by clear and convincing evidence, the dates of first sale or public use of this device. There are no available records or testimony showing any sales or public use, as distinguished from date coding,[5] of the CTS Model 201 Series controls having a hollow shaft prior to February 12, 1967 (more than one year prior to the application for the '604 patent). See, Julian v. Driving Systems Co., 346 F.2d 336, 145 USPQ 631 (7th Cir. 1965).

Defendants relied principally on the references listed by the Patent Office at the end of the '604 patent, and the '478 patent. The plaintiff's expert clarified the differences between the subject matter of Claims 1, 5, 7, 8, and 10 of the '604 and the prior art cited which fails to show a variable resistor control with a driver equipped with a barrel protruding through an aperture in the wall of an enclosed housing, the protruding portion of which is deformed into a bearing that seals the housing to exclude dust.

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[4] See text at page 402. Even if the testimony had been admitted, it would not have been persuasive. The witness misstated contents of claim 1 of '604. Also, he contradicted the dictionary definition, cited by him, of the important term "flared bearing."

[5] The date coding applicable to plaintiff's devices shows only the approximate date of the stamping or making of a particular part. It does not indicate the assembly date of the complete component. The date coding does not show the sale date of the component or the date of placement in public use. Moreover, the component may never be sold or used or may be sold or used more than a year following the date.

Defendants' reliance on plaintiff's answer to defendants' Interrogatory 60 to establish date of sale or public use is misplaced. That set of interrogatories related to antitrust issues no longer in the case, not sales of hollow shaft controls.

Moreover, because the '478 patent discloses fewer of the claimed elements, it is less pertinent than the Patent Office references.

Admittedly, the prior art relied upon by defendants includes a flared bearing or deformed portion. The purpose of the flared bearing in the prior art, however, was holding parts together, not providing a dust-excluding seal for an enclosed housing. At the time '604 issued, deformed portions or flared bearings for holding parts were old and well-known. Moreover, plaintiff's expert testified that the prior art cited does not anticipate or fully meet the subject matter of any of claims 1, 5, 7, 8, and 10 of the '604. Even during their offer of proof, defendants offered no evidence tending to show that any of the references anticipated the subject matter of these claims.

V. Patent No. 3,670,285 ('285)

The remaining questions focus on defendants' counterclaim for declaratory judgment of invalidity of plaintiff's United States Letters Patent No. 3,670, 285. The counterclaim is brought under 35 U.S.C. §§ 101, 102(b) and (c) and 112.

[6] Defendants assert that '285 lacks utility and therefore validity under 35 U.S.C. § 101. '285 was developed with the intent of producing a resistor that could be manufactured less expensively than other CTS resistors. While the court acknowledges evidence indicating that some of the models produced did not perform satisfactorily on certain "gradient" tests, defendants have not met the heavy burden of proof required to establish lack of utility. For a patent to be "useful" under § 101, it need not be perfect for commercial use. Field v. Knowles, 183 F.2d 593, 86 USPQ 373 (CCPA 1950). Mr. Barden, vice-president of CTS in charge of engineering and development, testified that samples of '285 were commercially satisfactory as a variable resistor control. Moreover, an original model functioned properly, with test results confirming this result on subsequent occasions.

Defendants have also failed to sustain the burden of proving invalidity under 35 U.S.C. § 112. That section provides in part:

> "The specifications shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same * * *."

[7] The court has not had the benefit of expert testimony as to whether the specifications satisfy Section 112. See Lorenz v. General Steel Products Company, Inc., 337 F.2d 726, 143 USPQ 140 (5th Cir. 1964). Defendants' reliance upon the failure of some of the samples is, without more, inadequate to permit the court to find the specifications defective under the statute. See Williams v. Administrator of National Aeronautics and Space Administration, 463 F.2d 1391, 175 USPQ 5 (CCPA 1972).

[8] Defendants also contend that the Piher PT 15 variable resistor was on sale or sold in the United States more than a year prior to the filing date of the application for the '285 patent, March 16, 1970, and therefore invalid under 35 U.S.C. § 102(b). Under § 102(b), a person is entitled to a patent unless the invention was "* * * in public use or on sale in this country more than one year prior to date of the application for patent in the United States." The standard required for proof that the invention of '285 was in public use or placed "on sale" prior to application is "clear and convincing" evidence. Julian v. Drying Systems Co., 346 F.2d 336, 338, 145 USPQ 631, 632-633 (7th Cir. 1965).

While it is settled that a consummated sale is unnecessary, and the placing "on sale" only is required, Burke Electric Co. v. Independent Pneumatic Tool Co., 234 F. 93 (2nd Cir., 1916), Wende v. Horine, 225 F. 501 (7th Cir., 1915), it is also established that a device must have existed as a finished article for sale, on hand ready for delivery. Burke, supra; Conn. Paper Products, Inc. v. N. Y. Paper Co., 39 F.Supp. 127, 50 USPQ 180 (Md.), modified on other grounds, 127 F.2d 423, 54 USPQ 271 (4th Cir. 1942). The

device must be "on sale" in this country. 35 U.S.C. § 102 (b).

The evidence shows that Piher received part (plastic housing) of a proposed PT variable resistor in October, 1968. Merely a part of a device is insufficient predicate for a finding of "on sale." Part of a device cannot anticipate a patent, or be ready for delivery, even assuming offers for sale. See, Reo Motor Car Co. v. Gear Grinding Machine Co., 42 F.2d 965, 6 USPQ 9 (6th Cir. 1930). No complete samples were available in the United States until March 25, 1969, less than a year prior to the application date. Moreover, defendants' witness, Ricardo Balil, former president of Piher, admitted that samples sent to Motorola as late as July, 1969, although complete, were unsatisfactory.

Defendants' evidence does show some sales activity more than a year prior to the application date. For example, Balil testified to quoting prices to prospective customers beginning in January, 1969. There is evidence that a sample was ordered March 3, 1969, and sent from Spain thereafter. On balance, however, and with defendants' heavy burden of proof in mind, the court must find that defendants have failed to prove invalidity under § 102(b). There is no clear and convincing evidence of an anticipating device that was complete and ready for delivery within the statutory period.

[9] Finally, defendants contend under 35 U.S.C. 102(c) that plaintiff abandoned '285. Section 102(c) provides that a person shall be entitled to a patent unless he has "abandoned the invention." In theory, an inventor abandons an invention when he has dedicated his invention to the public. See, 2 Deller's Walker on Patents § 128 (2d ed. 1964). "No abandonment of an invention after the issue of Letters Patent has ever been judicially decided to exist in the United States." Id. § 151. Failure commercially to exploit an invention of the '285 patent does not establish abandonment. Imperial Brass Mfg. Co. v. Bonney Forge & Tool Works, 38 F.Supp. 829, 49 USPQ 144 (E.D., Pa. 1941).

Applying these principles, the court finds that defendants have not proved abandonment either prior to or after '285 issued. It is true that CTS has yet to bring '285 into production. However, the device had been "reduced to practice" in May, 1968 and again in January, 1969. See Dart Industries, Inc. v. E. I. DuPont De Nemours and Co., 489 F.2d 1359, 1365, 179 USPQ 392, 396 (7th Cir. 1973), quoting 24 Stan. L. Rev. 730, 743 (1972) (invention reduced to practice when there is a "completely operable physical embodiment"). Delay in filing application after reduction to practice (not more than two years in the instant case) does not constitute abandonment. Lowell v. Peer, 148 F. 2d 212, 213-214, 65 USPQ 127, 128-129 (CCPA 1945) (over 4 years). Without more, the court cannot conclude that CTS' failure to exploit commercially '285 amounts to a dedication of the device to the public.